

Fig. 1

Fig. 2

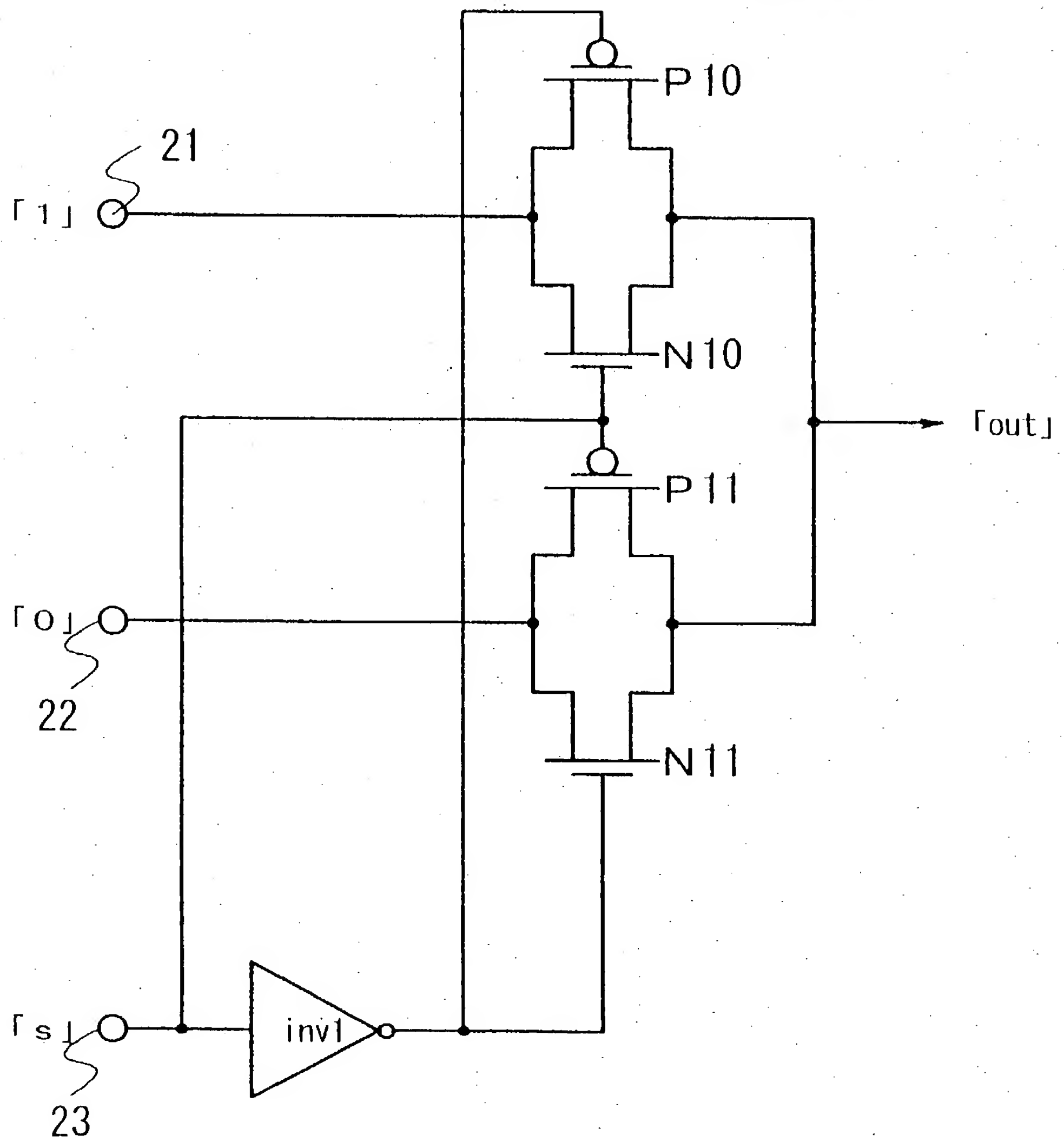


Fig. 3

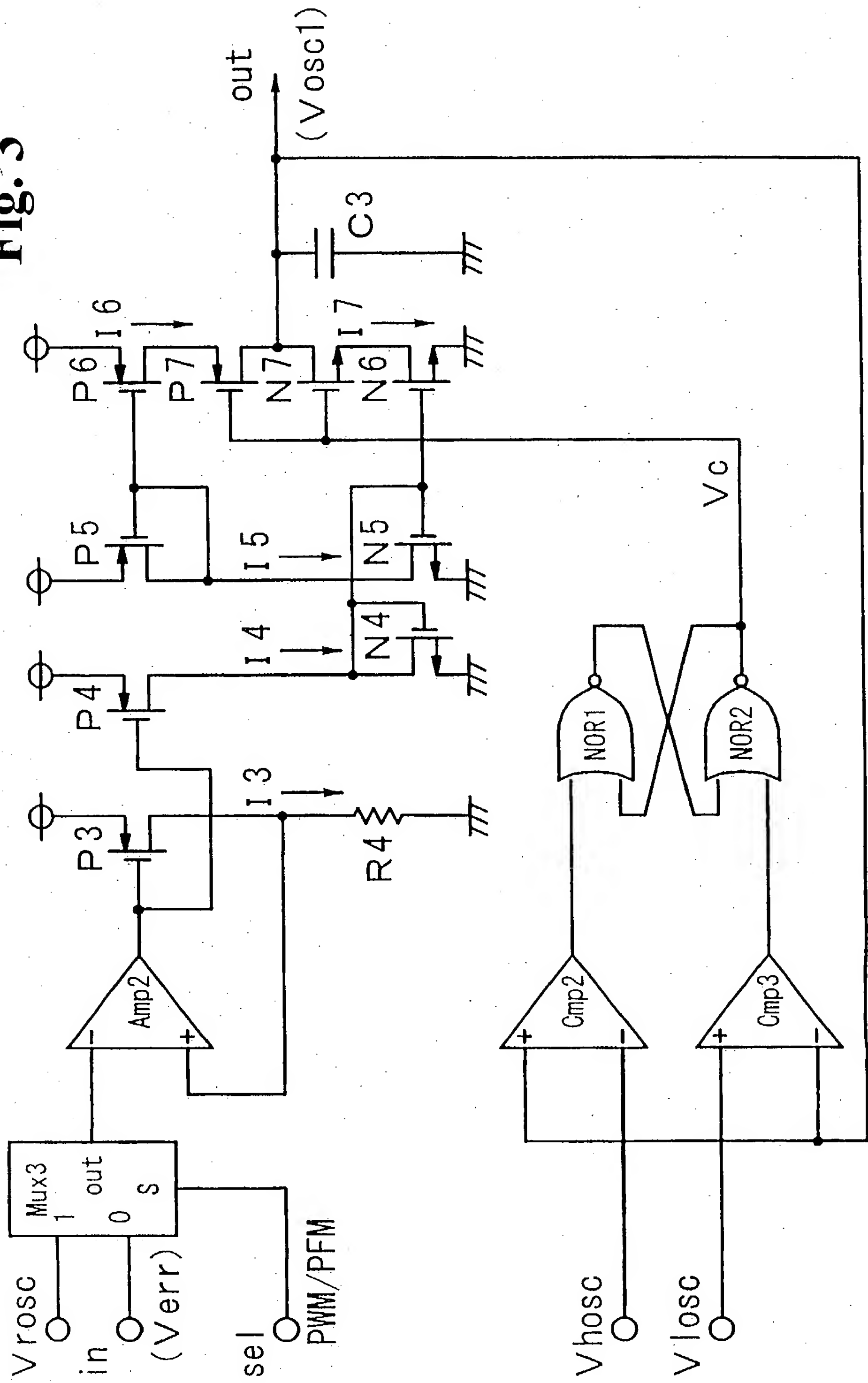


Fig. 4

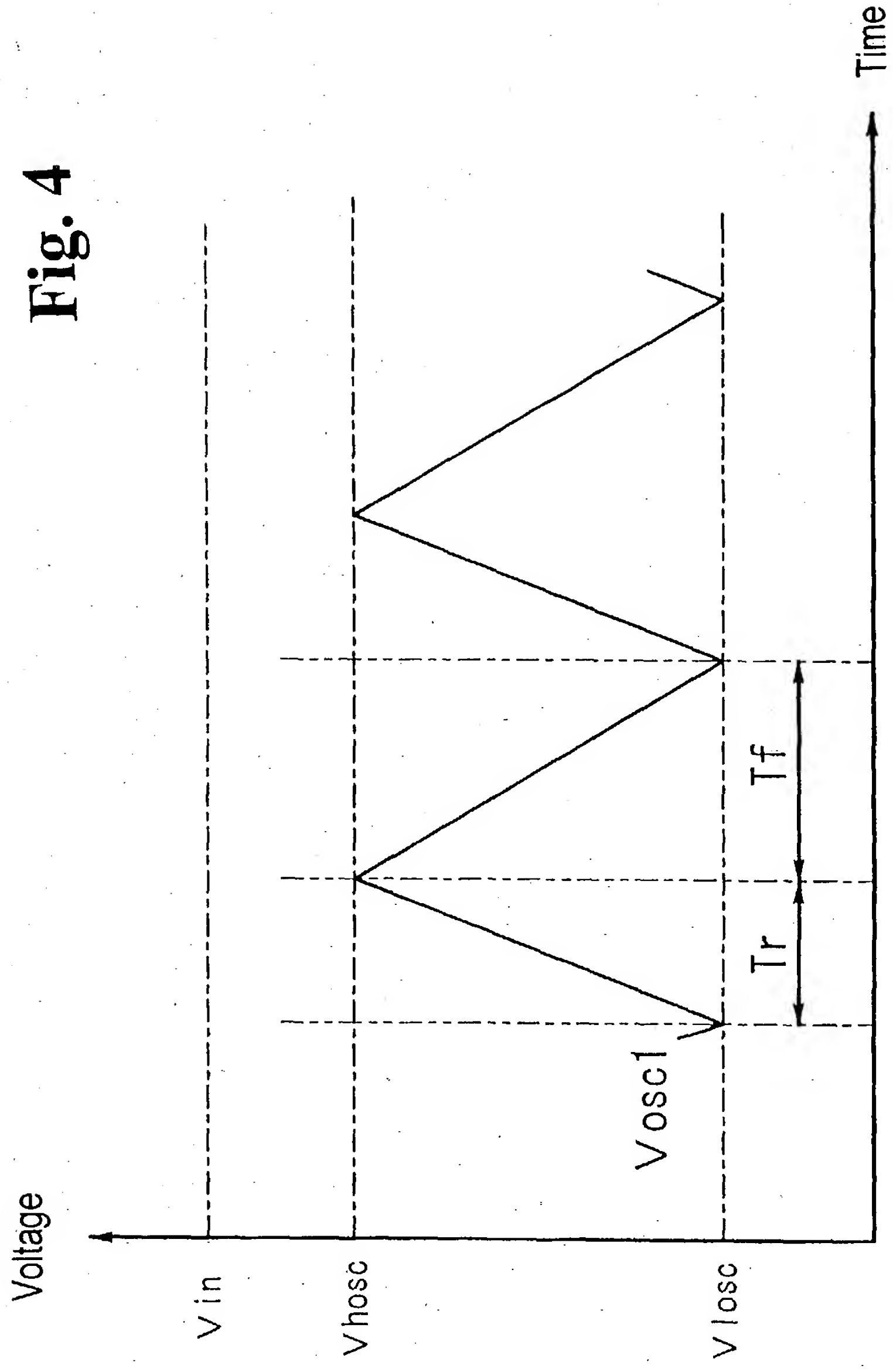


Fig. 5

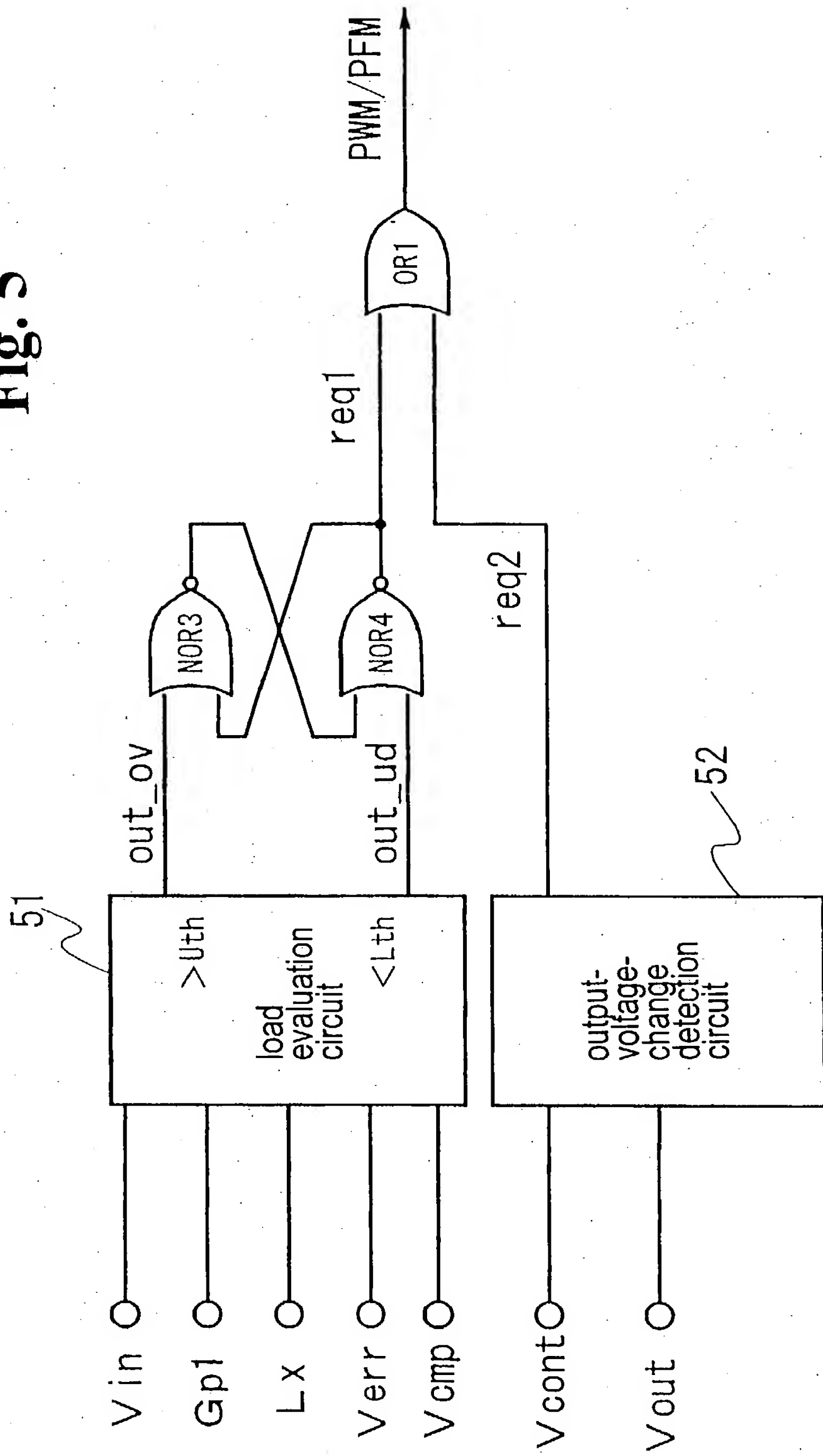


Fig. 6

output voltages load conditions	no change (req2=Low)	no change (req2=High)
	PWM/PFM =Low	PWM/PFM =High
	heavy load (req1=High)	PWM/PFM =High

Fig. 7

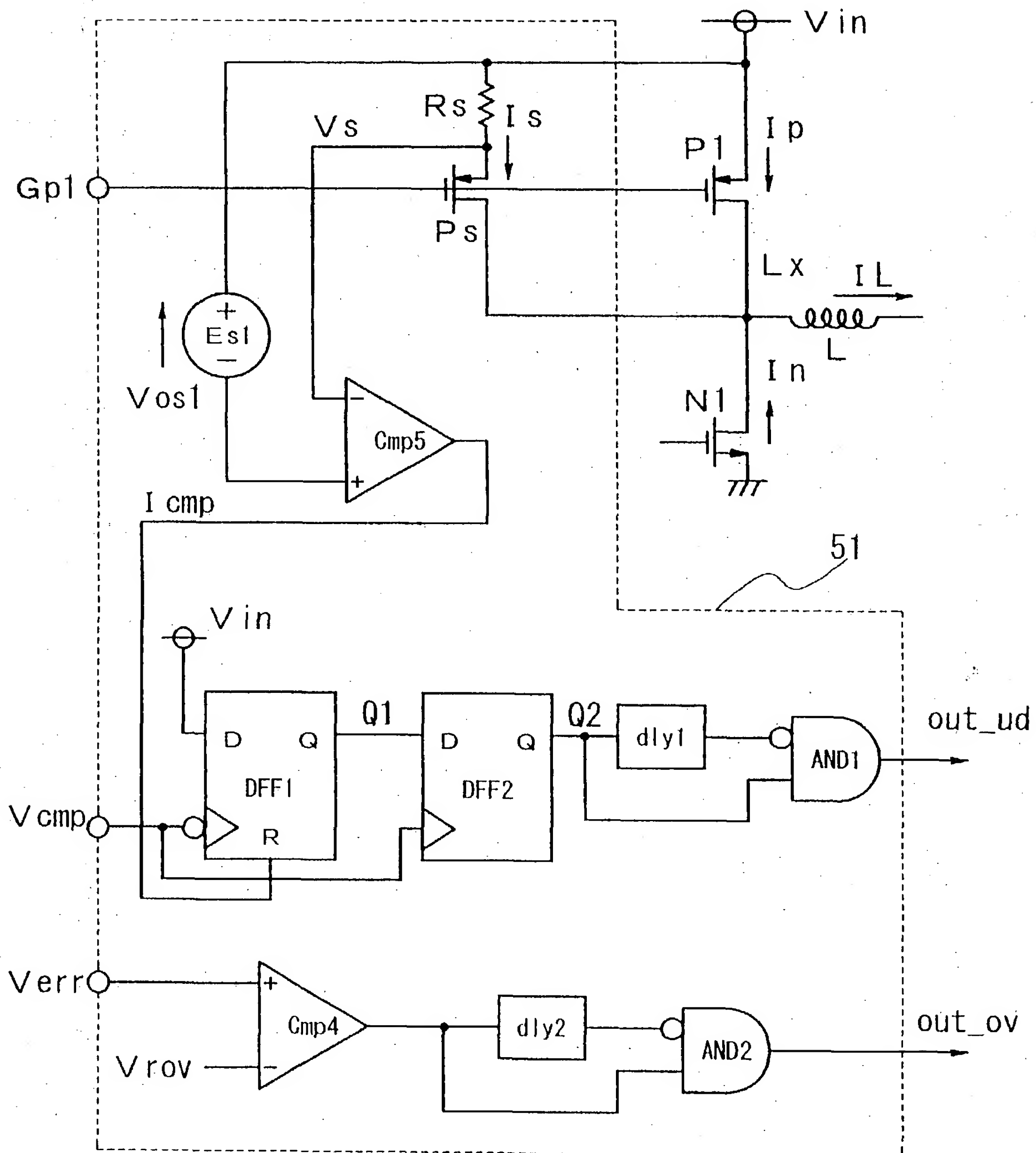


Fig. 8(a)

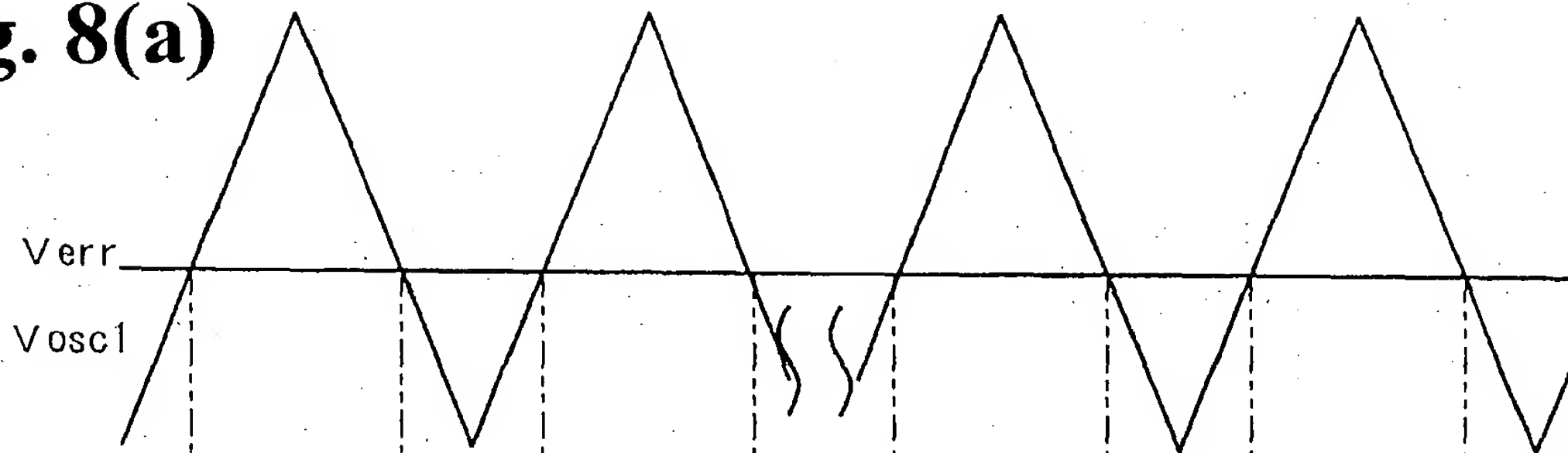


Fig. 8(b)

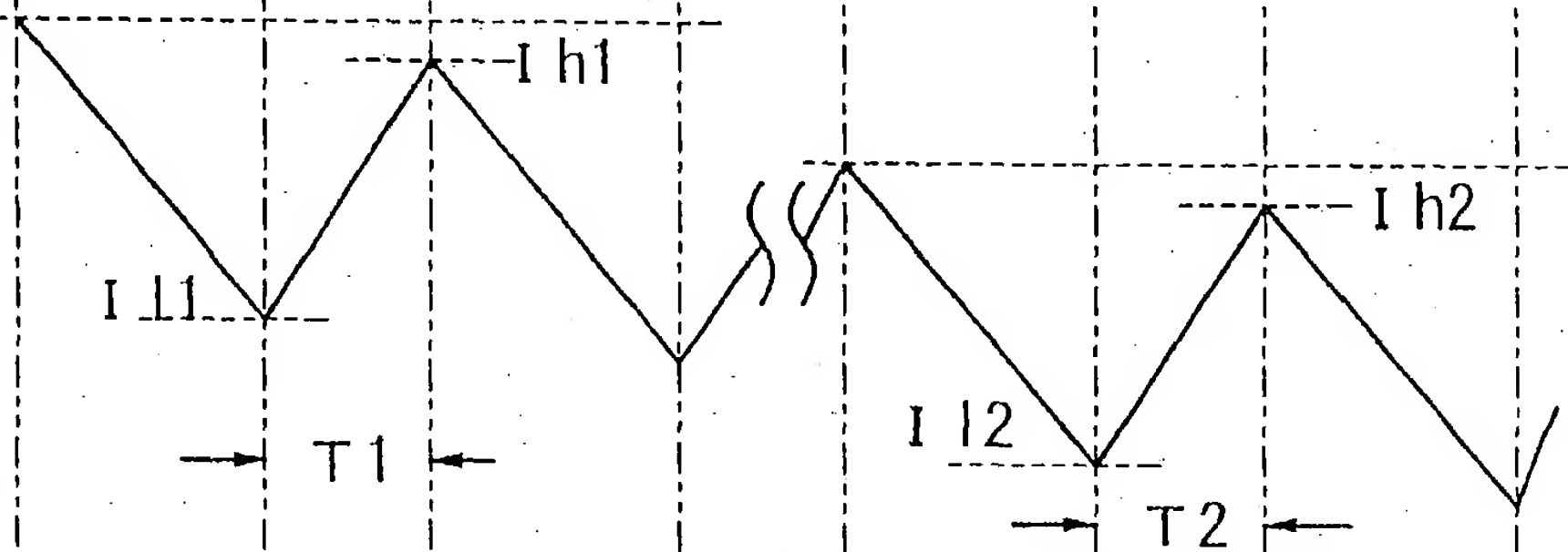


Fig. 8(c)

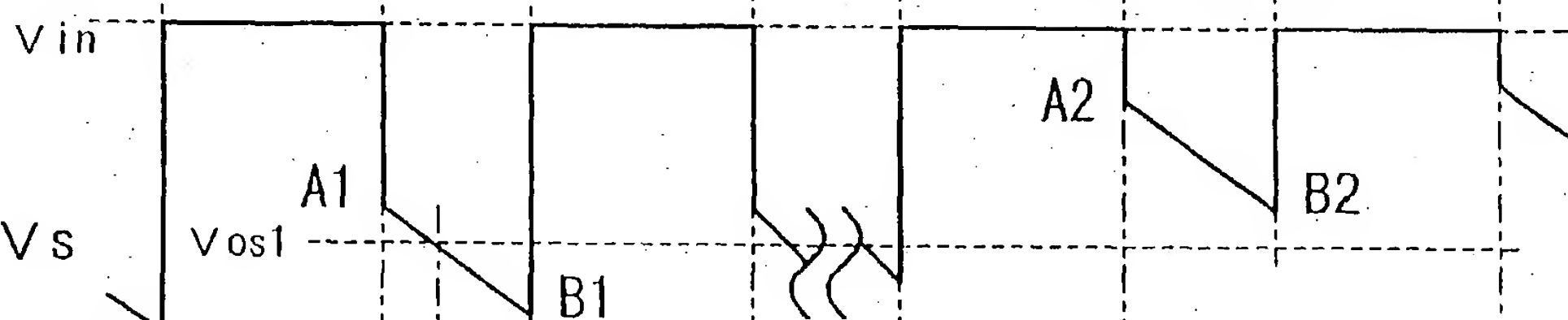


Fig. 8(d)

I_{cmp}

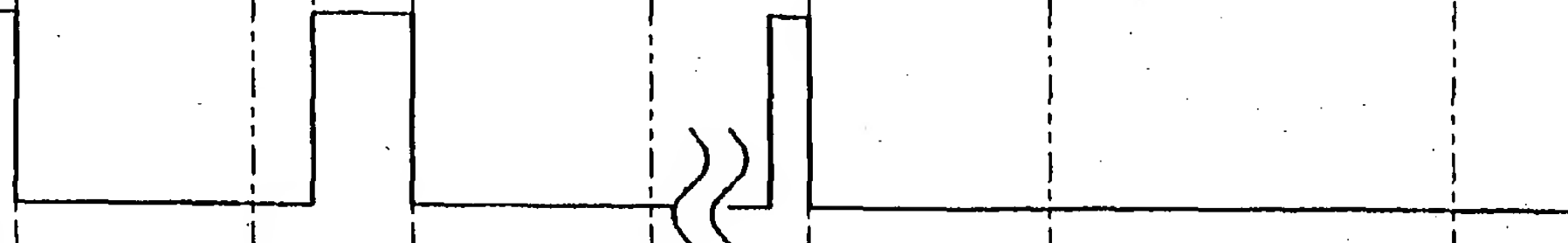


Fig. 8(e)

V_{cmp}



Fig. 8(f)

$Q1$



Fig. 8(g)

$Q2$



Fig. 8(h)

out_{ud}



Fig. 9

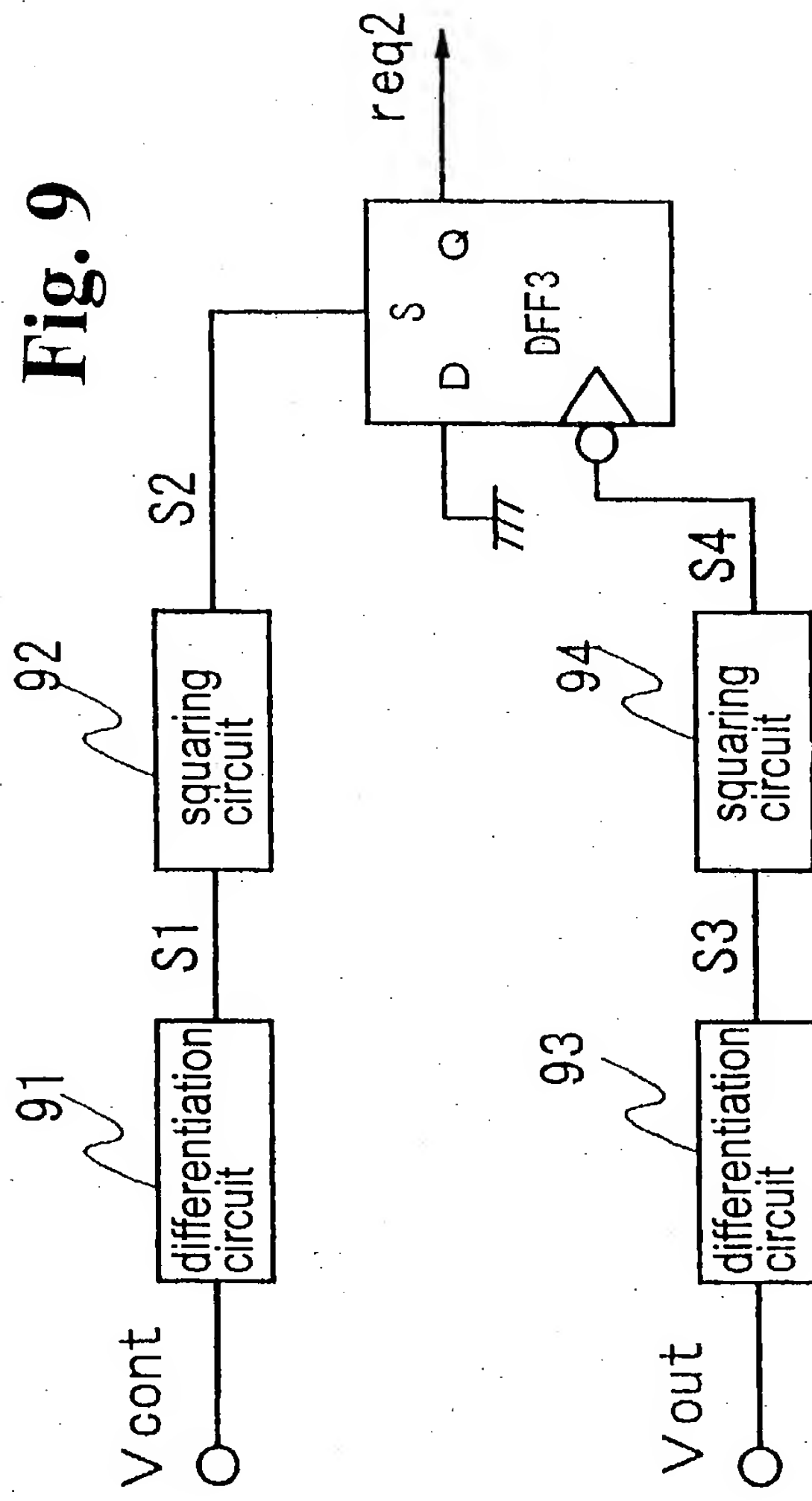


Fig. 10(a)

V_{cont}

Fig. 10(b)

V_{out}

Fig. 10(c)

$S1$

Fig. 10(d)

$S2$

Fig. 10(e)

$S3$

Fig. 10(f)

$S4$

Fig. 10(g)

$req2$

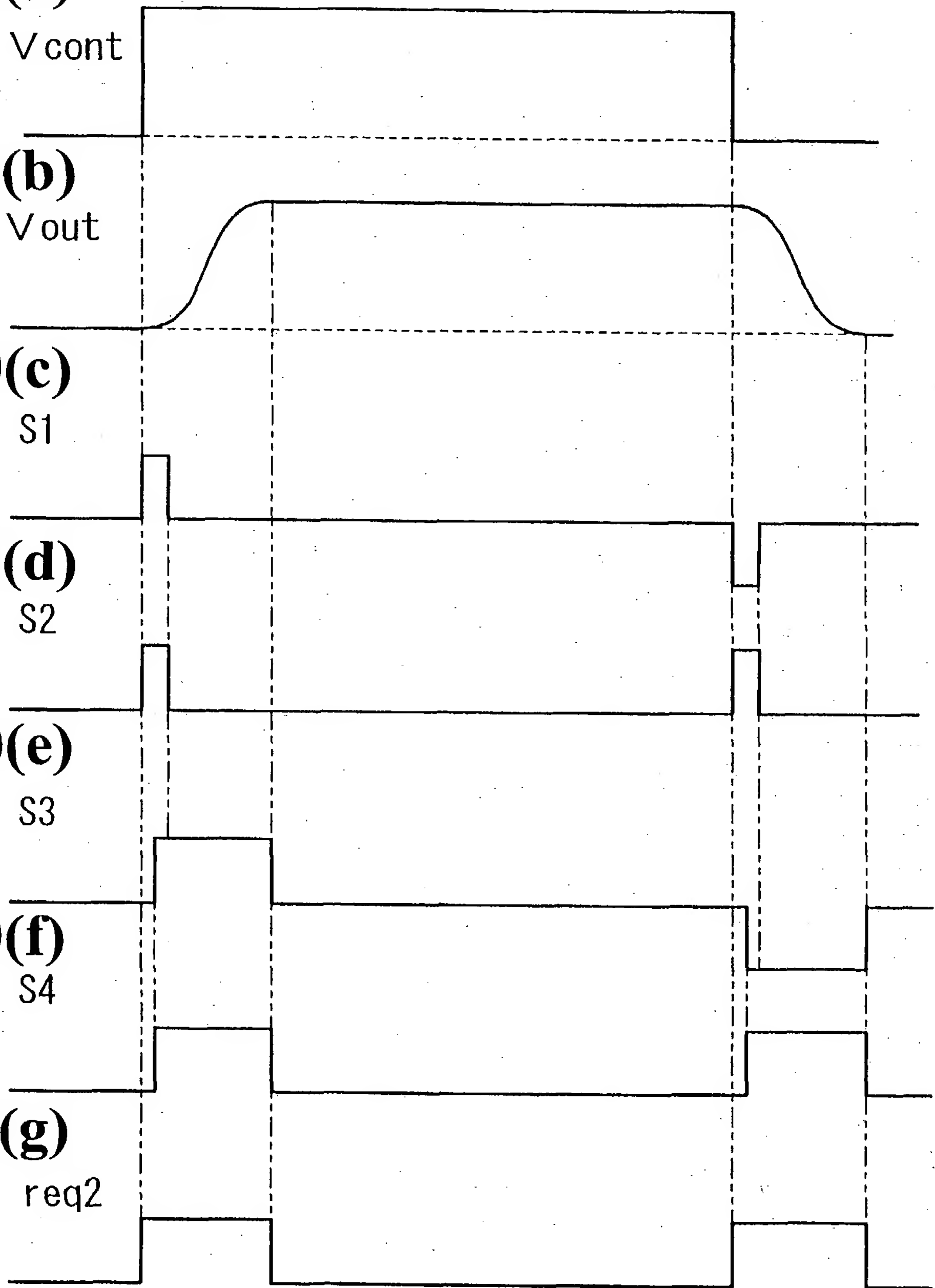


Fig. 11

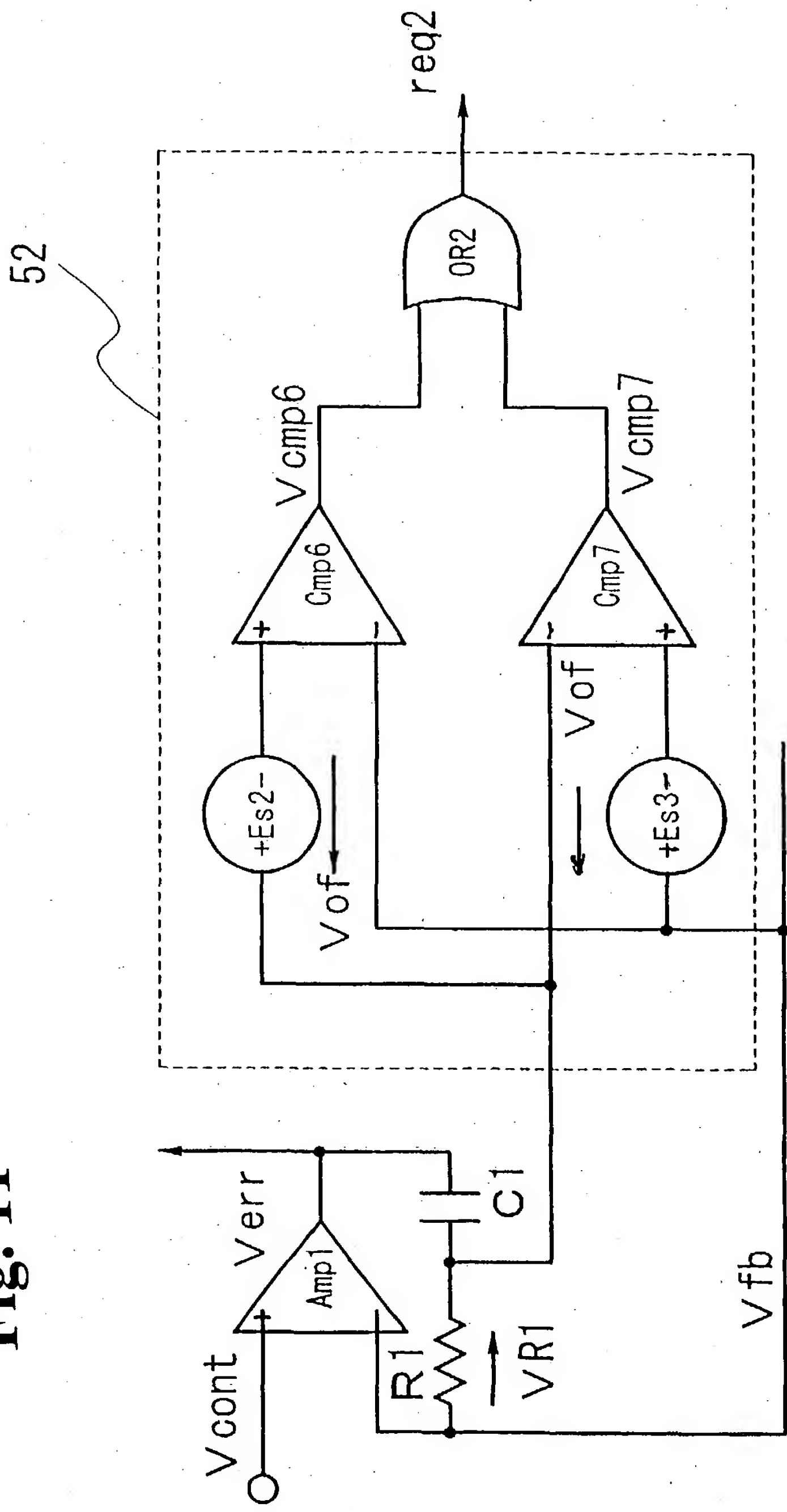


Fig. 12(a)

V_{cont}

Fig. 12(b)

V_{out}

Fig. 12(c)

V_{err}

Fig. 12(d)

V_{R1}

0 V_{of}

$-V_{of}$

Fig. 12(e)

V_{cmp6}

Fig. 12(f)

V_{cmp7}

Fig. 12(g)

$req2$

t_1

t_2

t_3

t_4

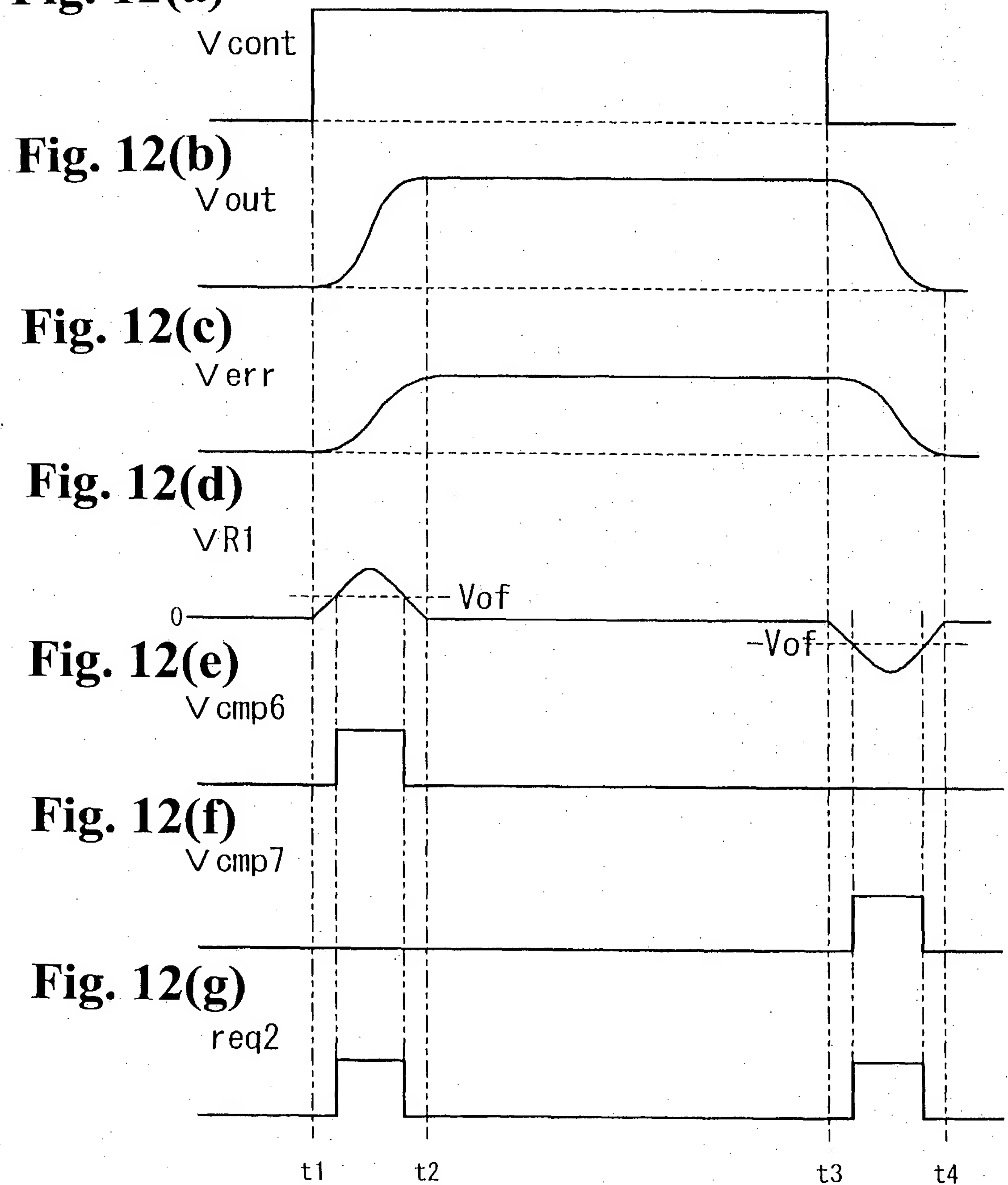


Fig. 13(a)

V_{cont}



Fig. 13(b)

I_{out}



Fig. 13(c)

V_{out}

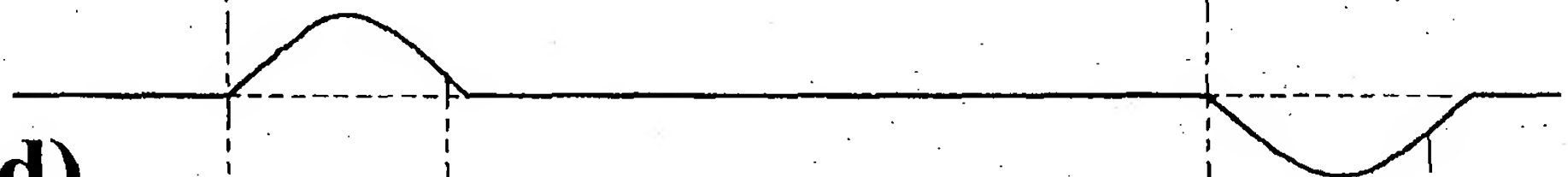


Fig. 13(d)

V_{R1}

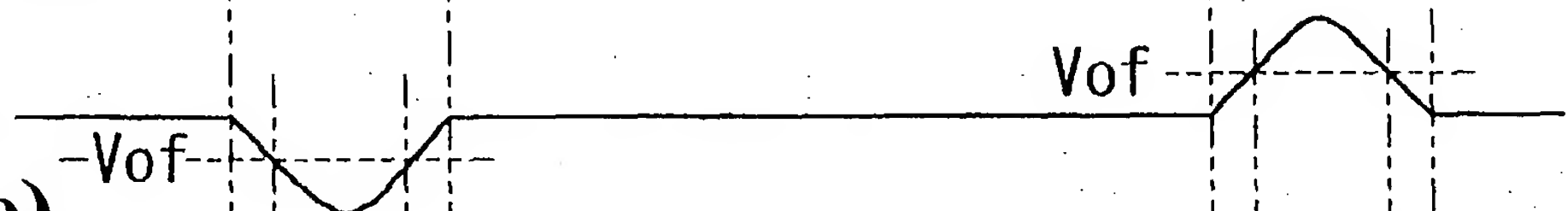


Fig. 13(e)

$req2$

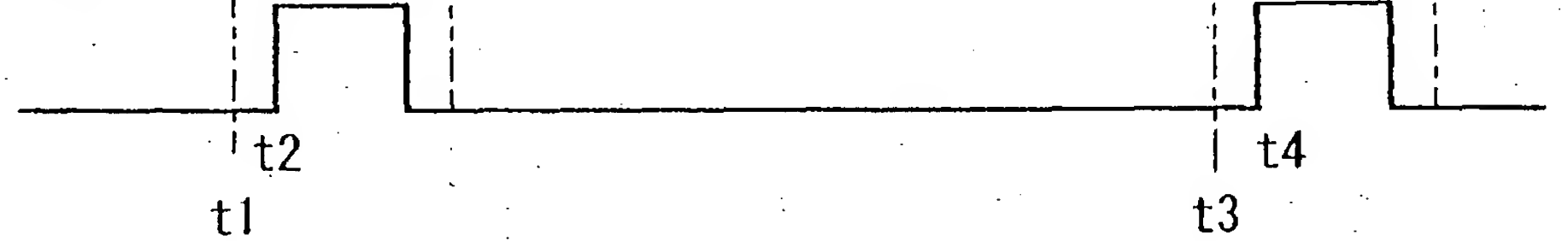


Fig. 14(a)

V_{cont}

Fig. 14(b)

V_{out}

V_{out1}

V_{out2}

Fig. 14(c)

load
current

T_{r2}

T_{f2}

Fig. 14(d)

current
increasing
and
decreasing
 V_{out}

I_{crg1}

Fig. 14(e)

coil
current

I_{dis1}

0

t_1

t_2

t_3

t_4

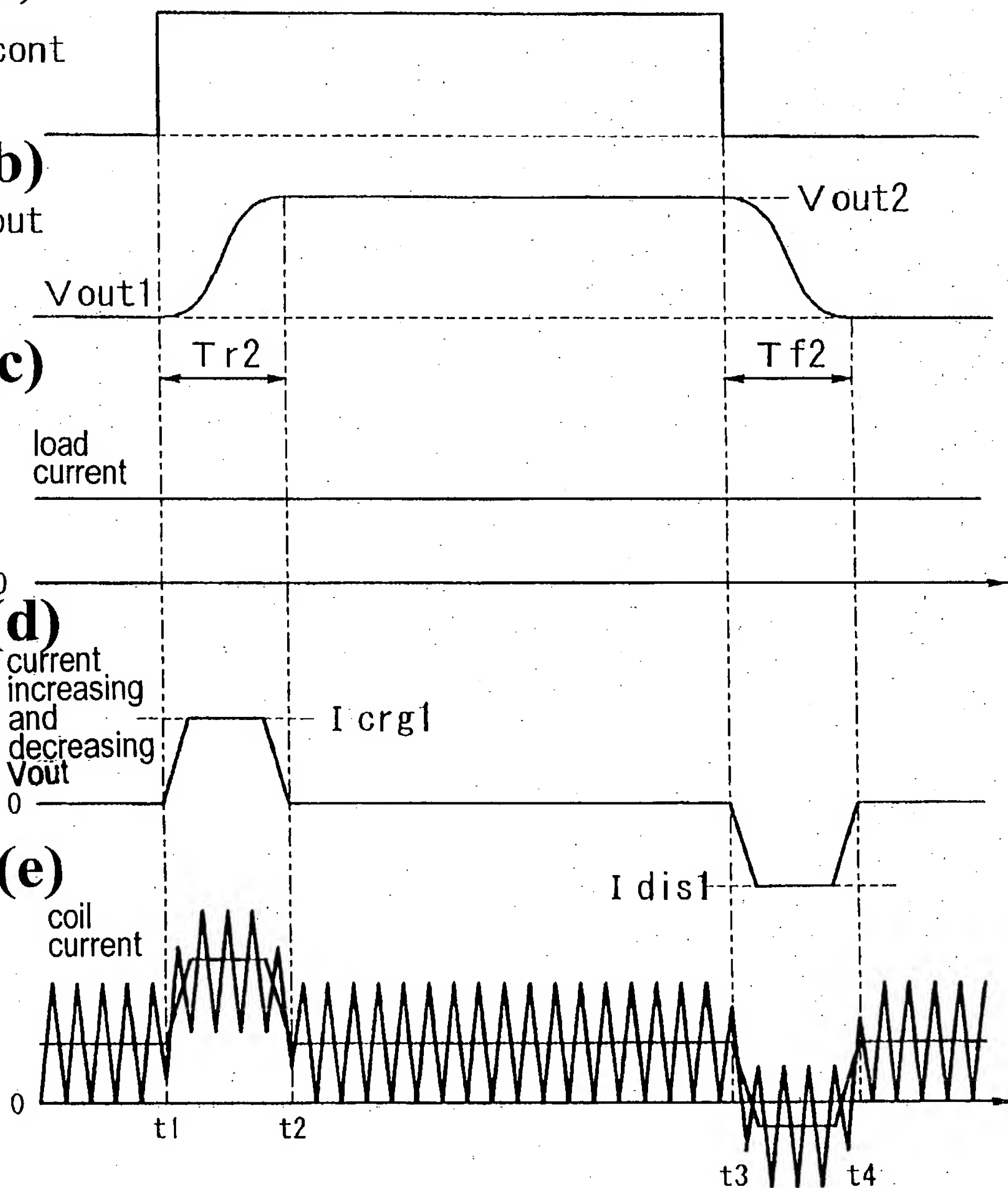


Fig. 15(a)

V_{cont}

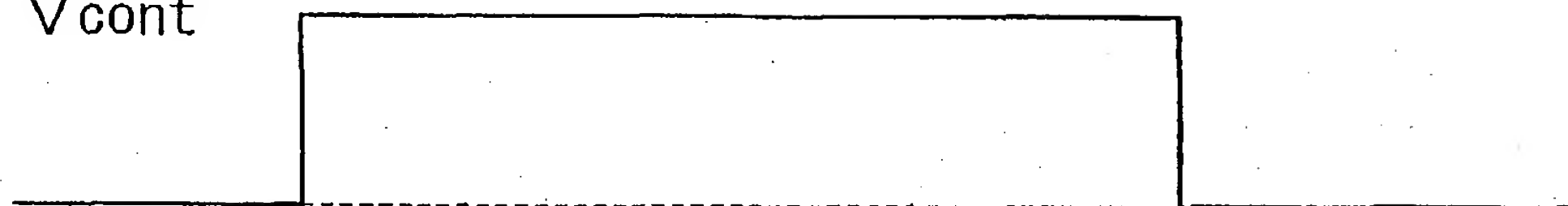


Fig. 15(b)

V_{out}

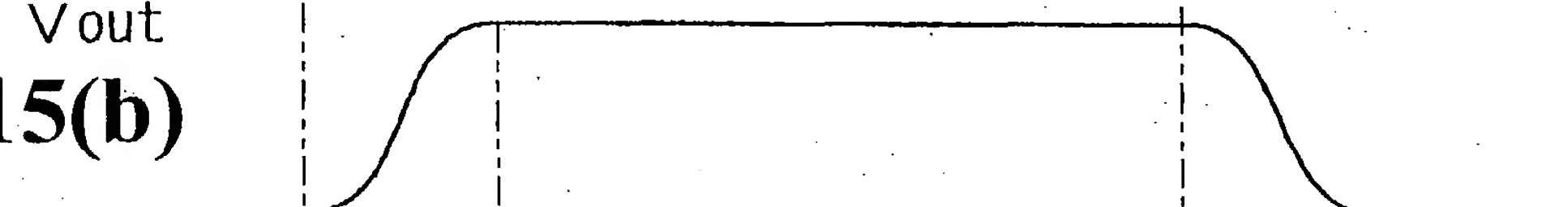


Fig. 15(c)

modes

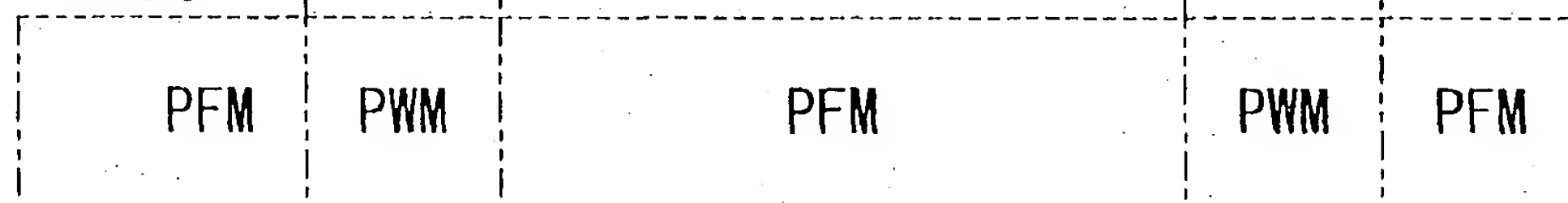


Fig. 15(d)

coil
current

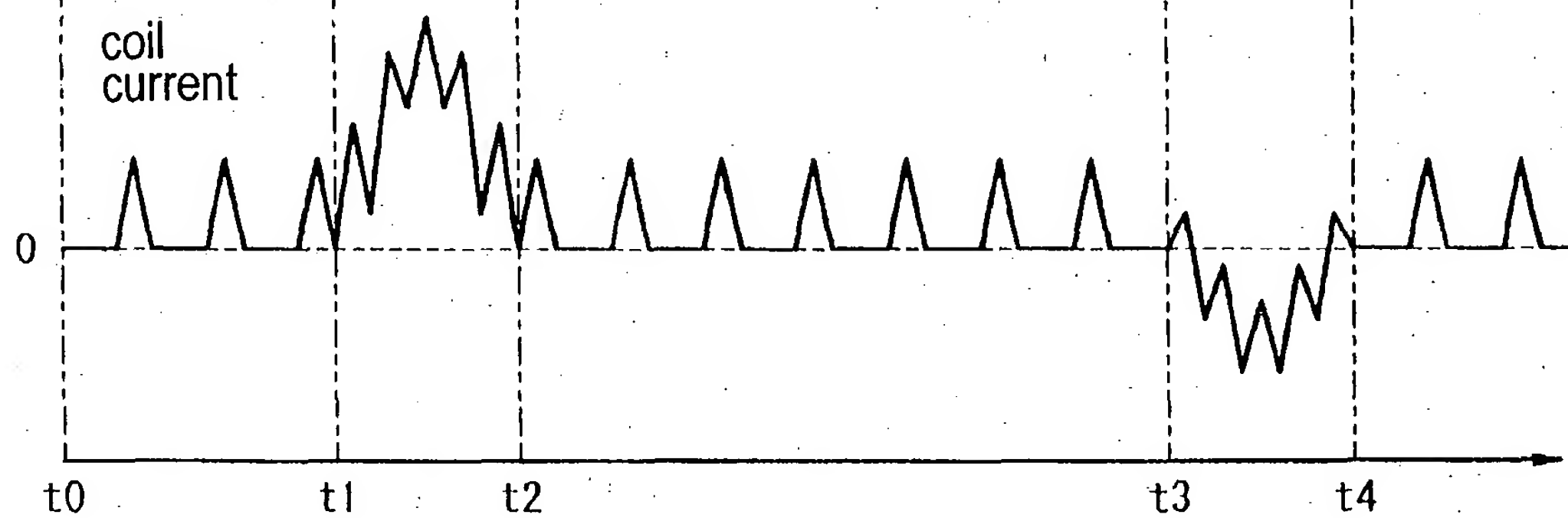


Fig. 16(a) I_{out}

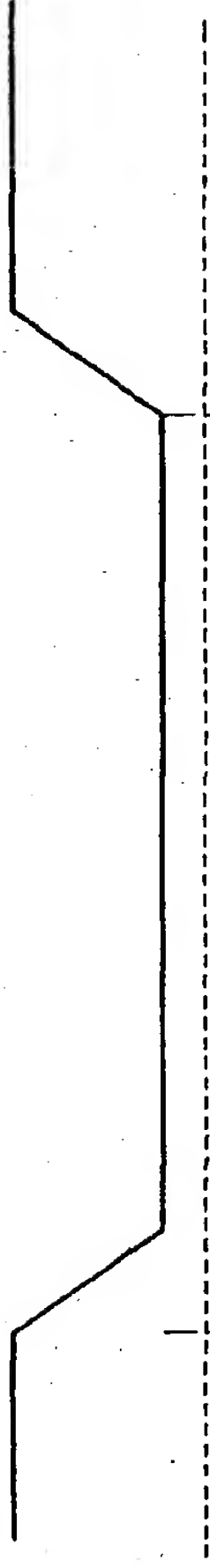


Fig. 16(b) V_{out}



Fig. 16(c) modes

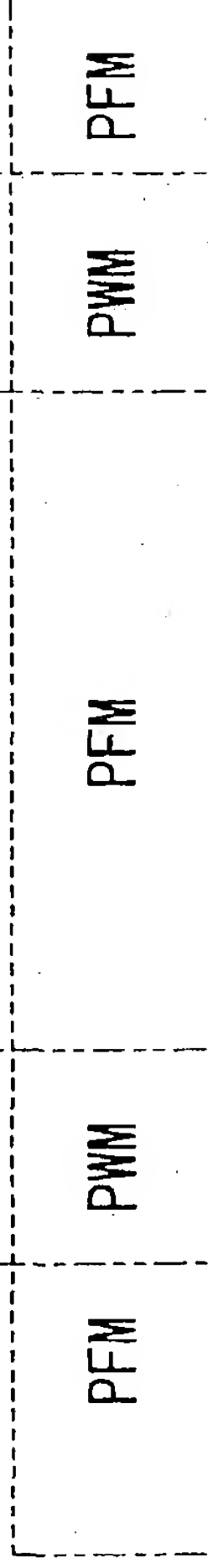


Fig. 16(d)

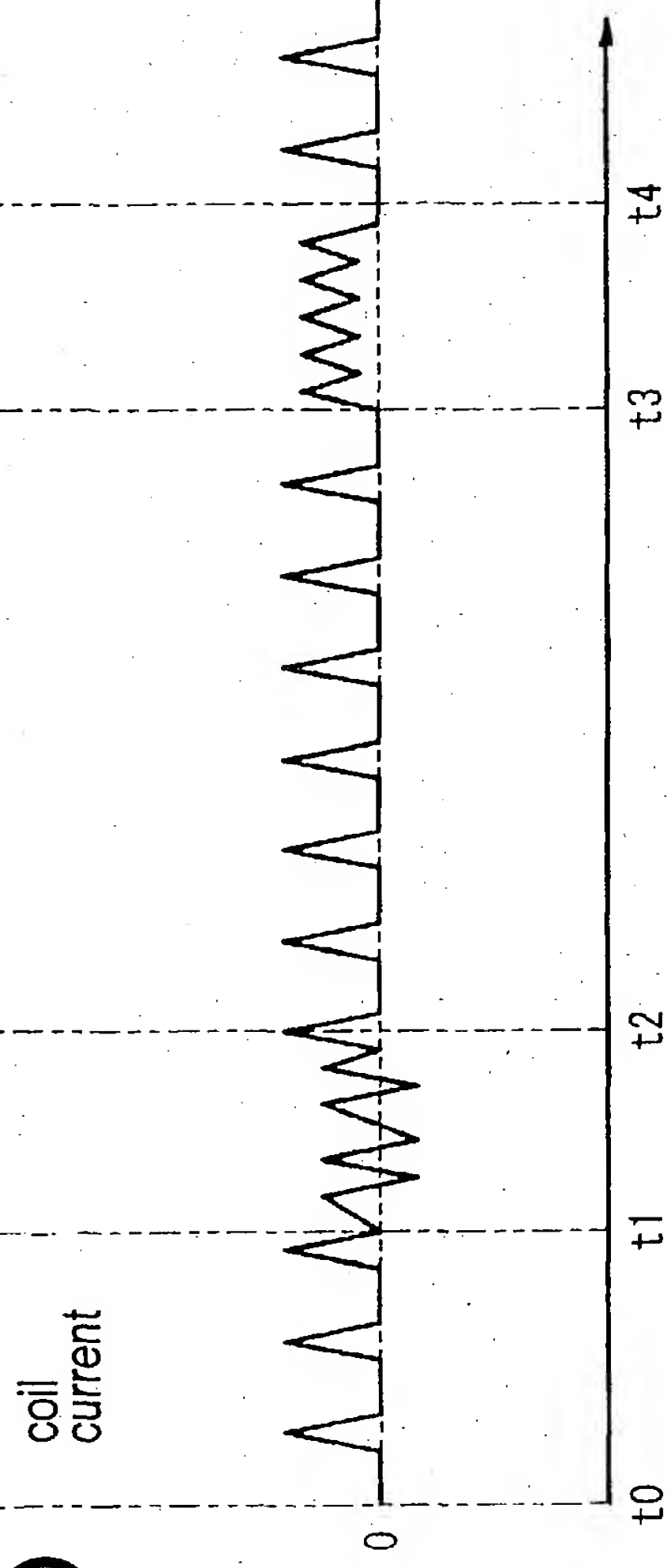


Fig. 17

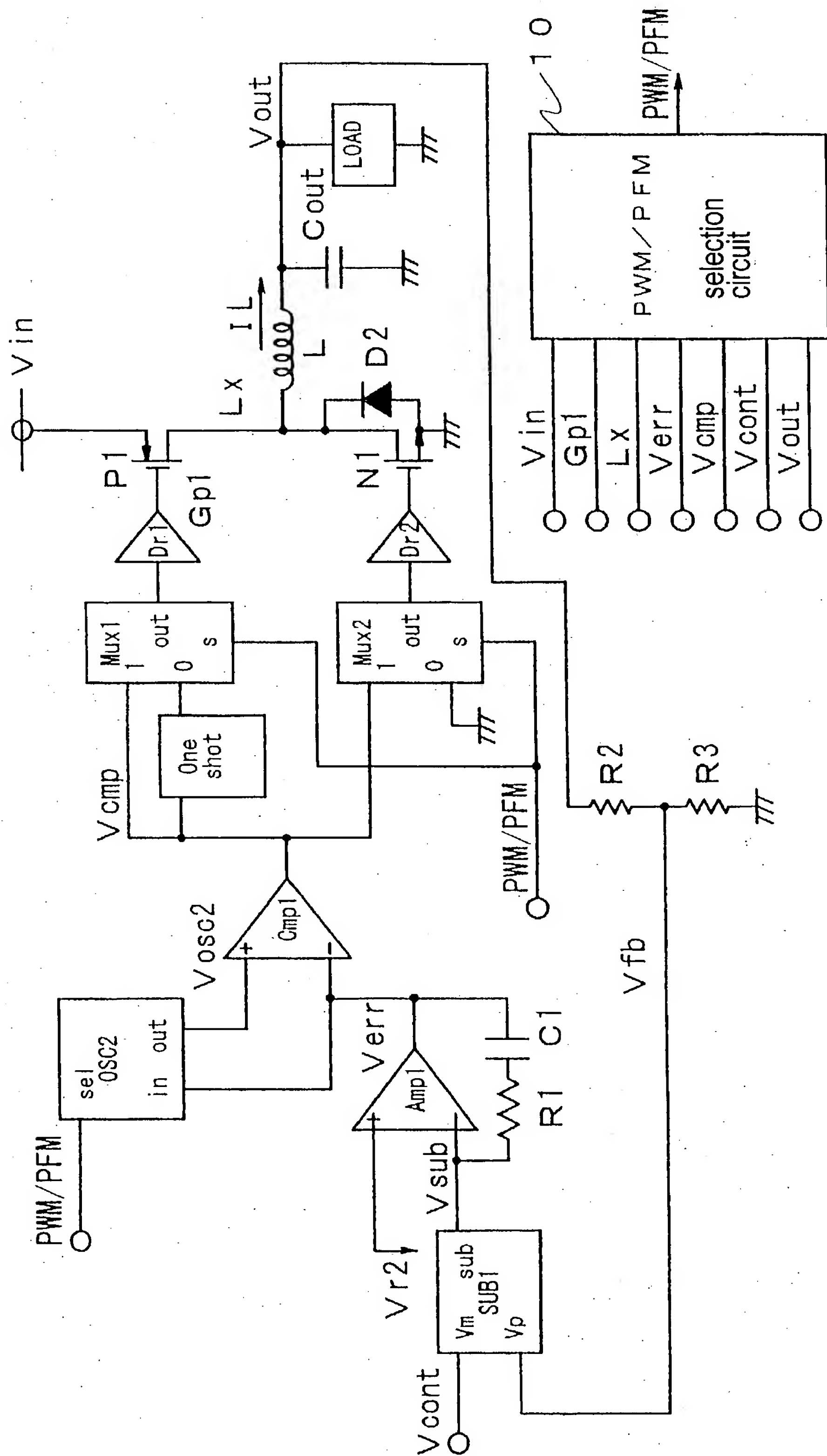


Fig. 18

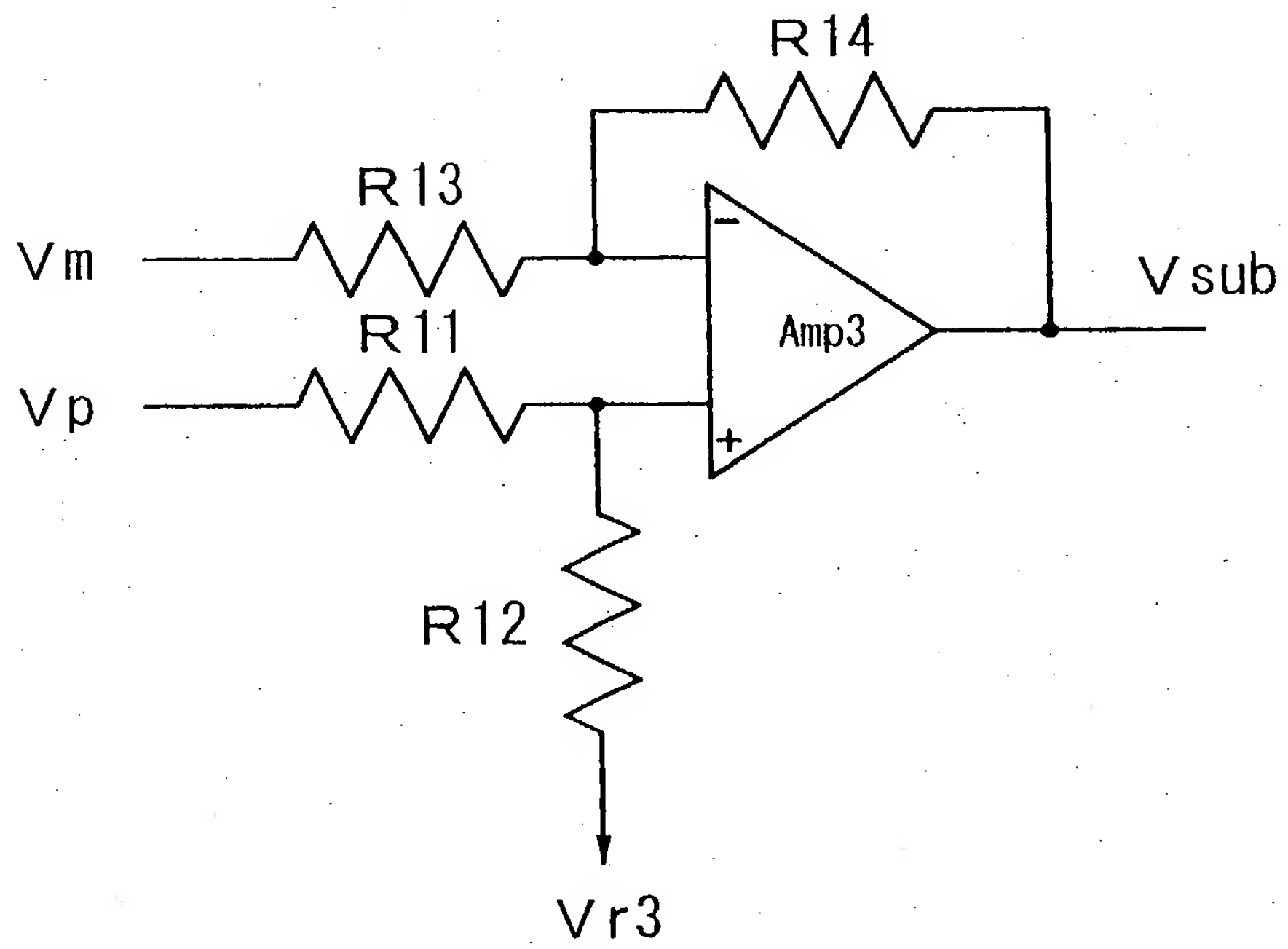


Fig. 19

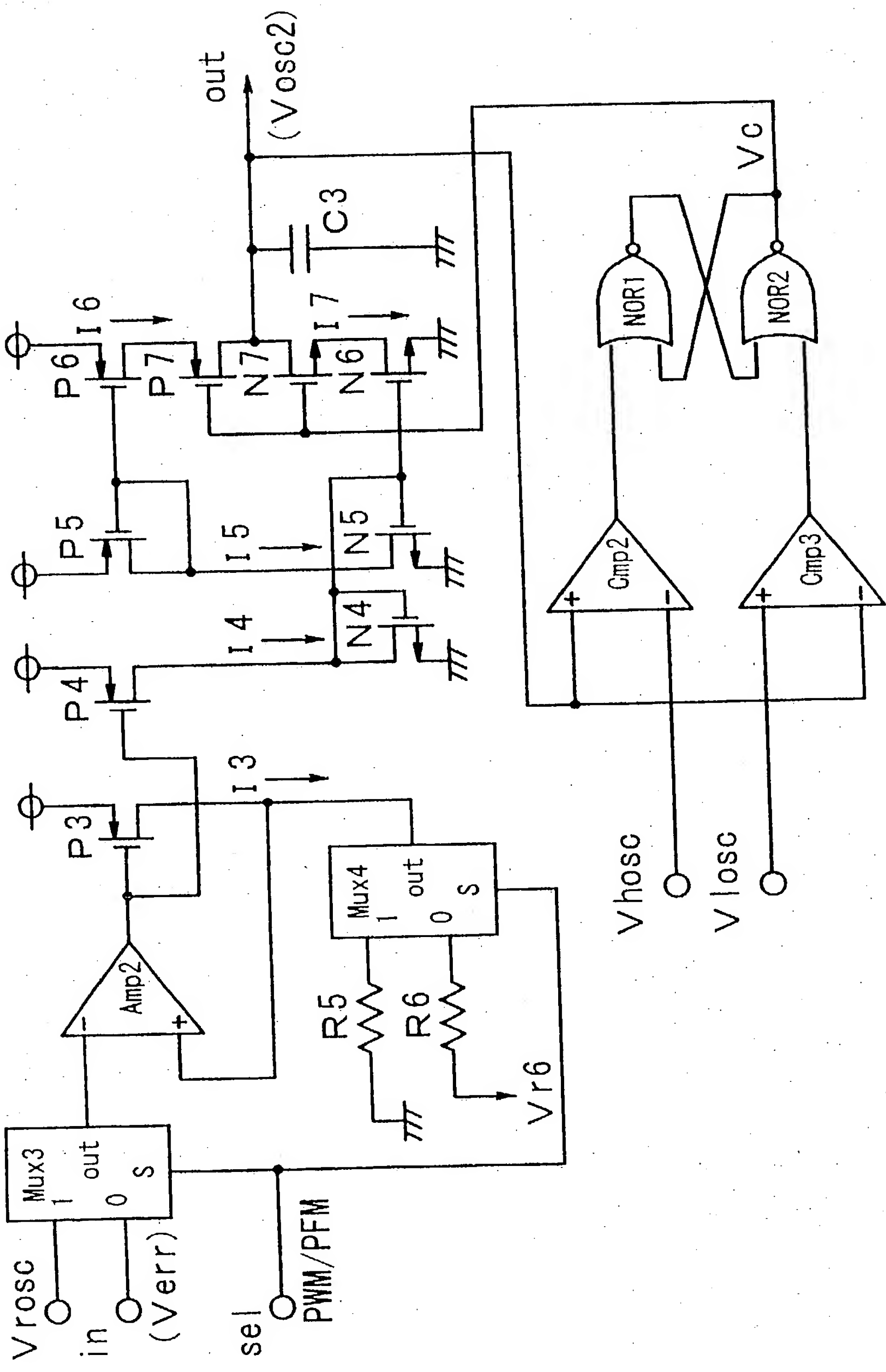


Fig. 20

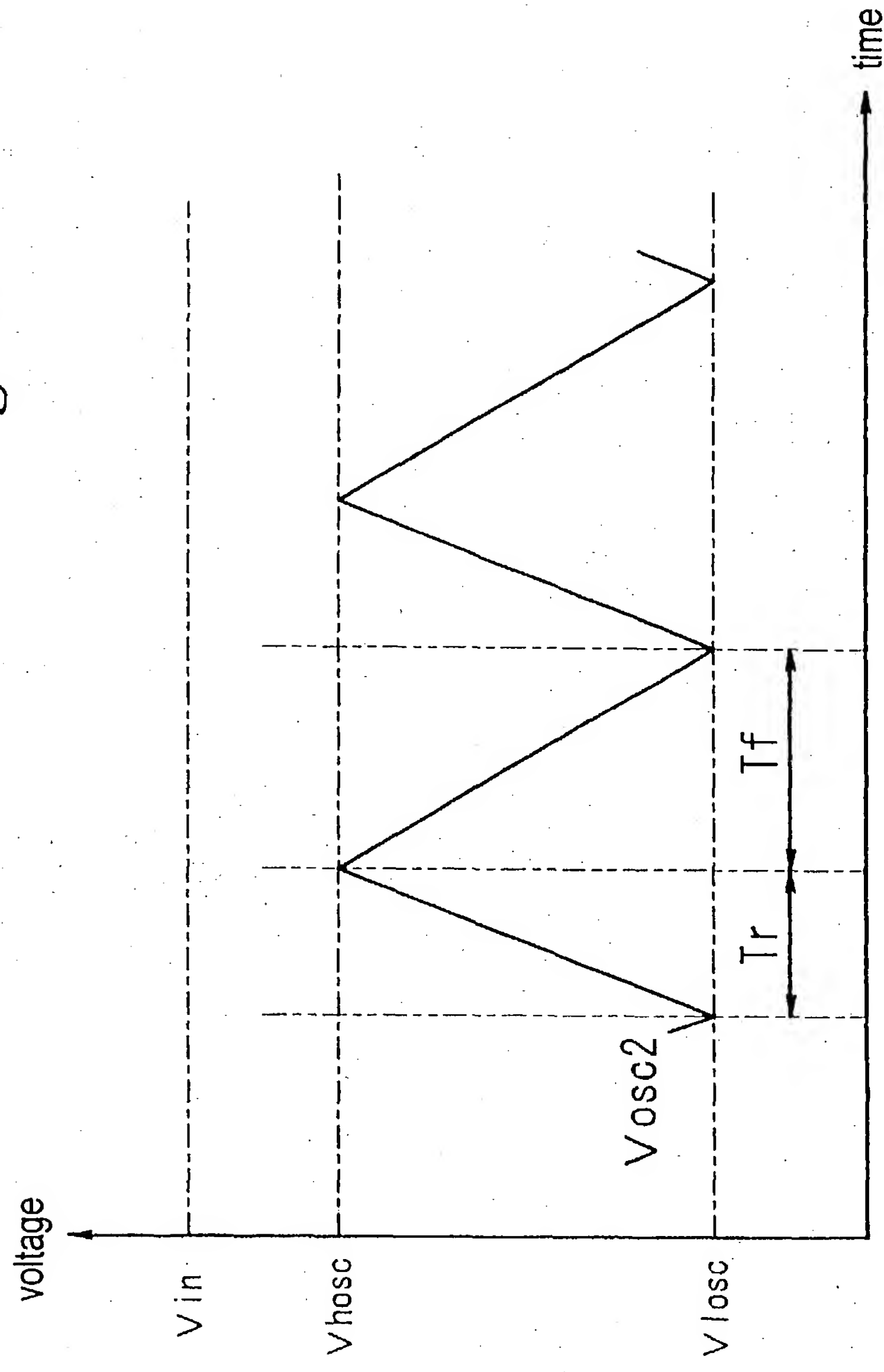


Fig. 21

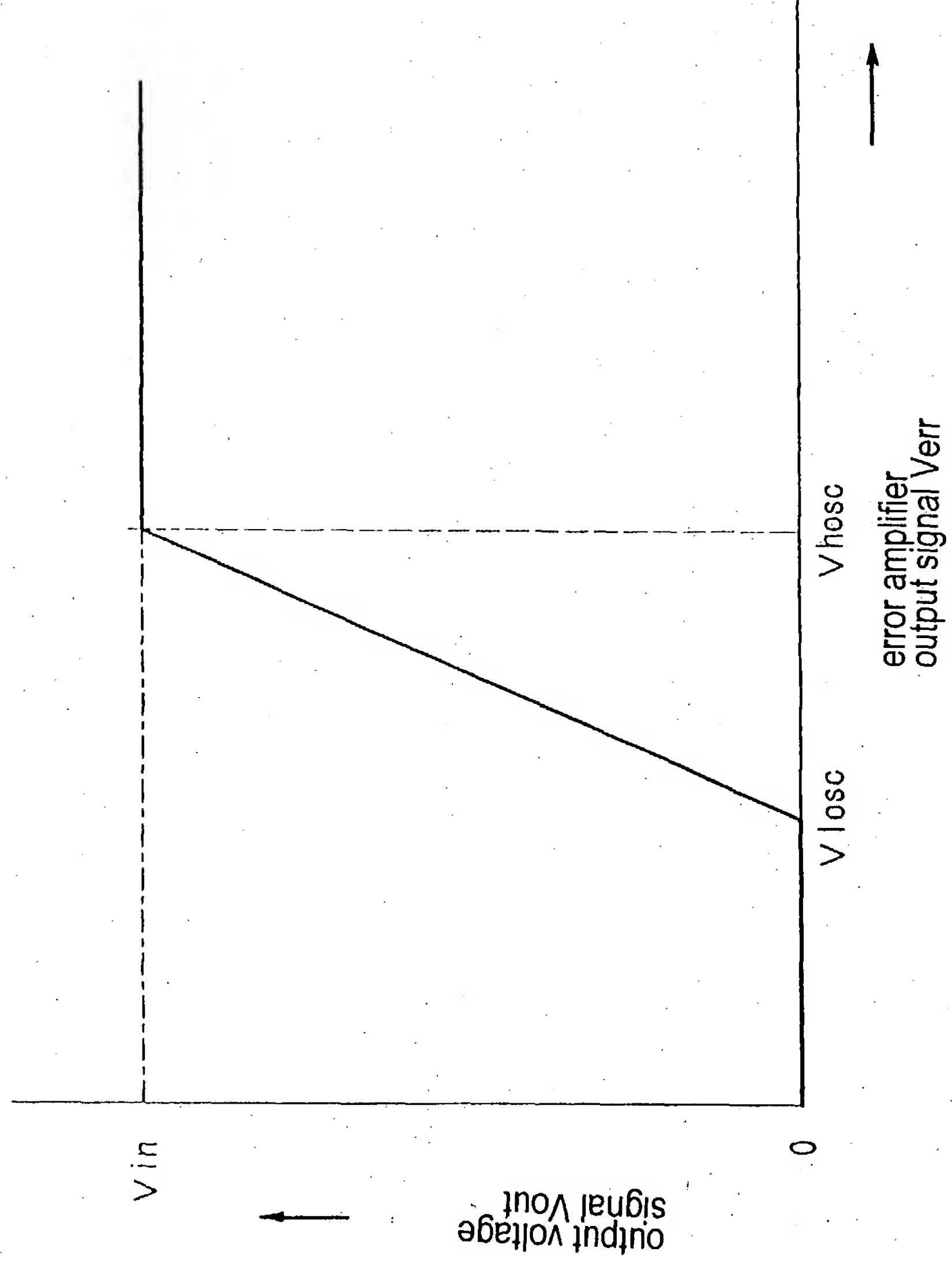


Fig. 22

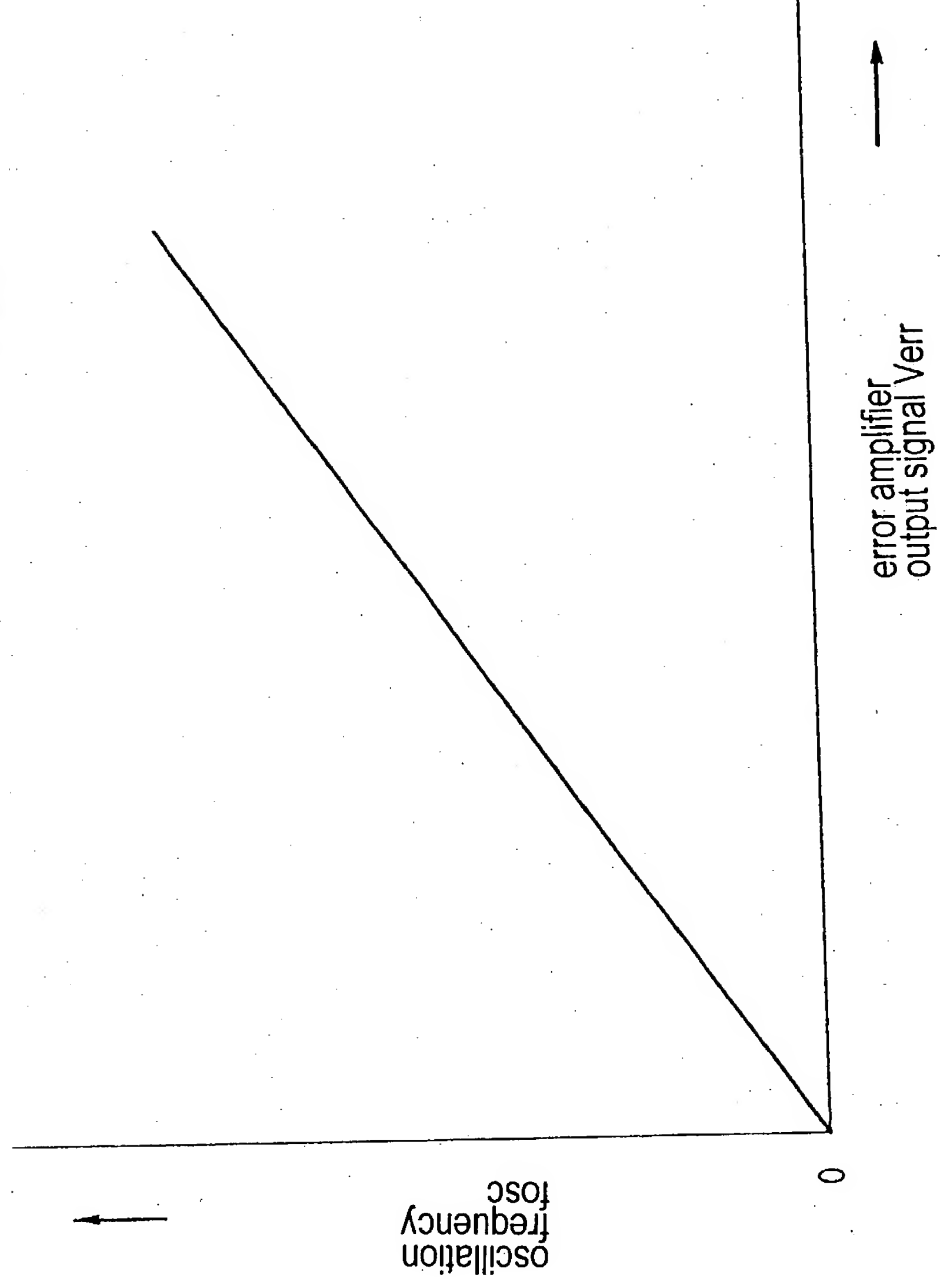


Fig. 23

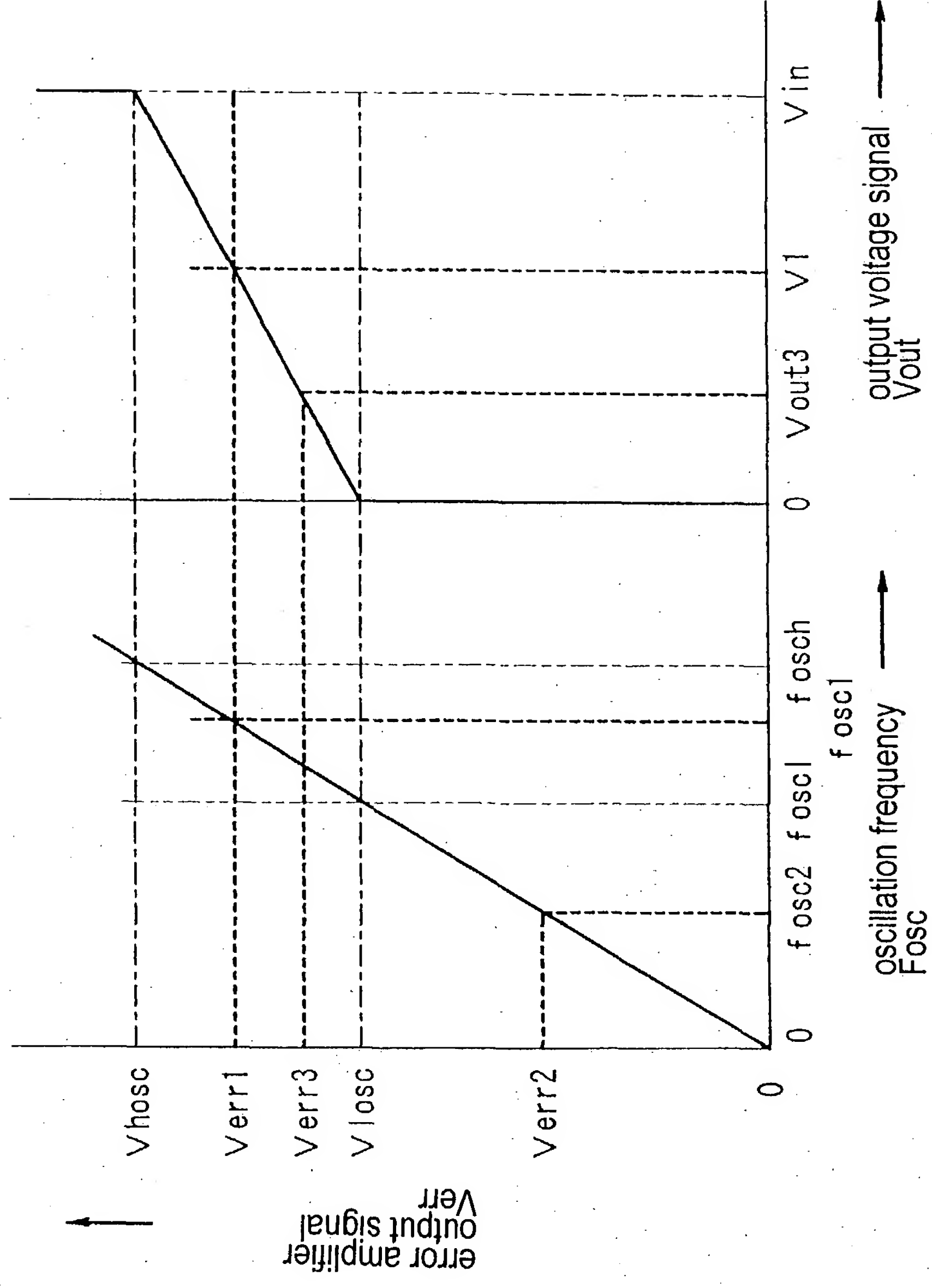


Fig. 24(a)

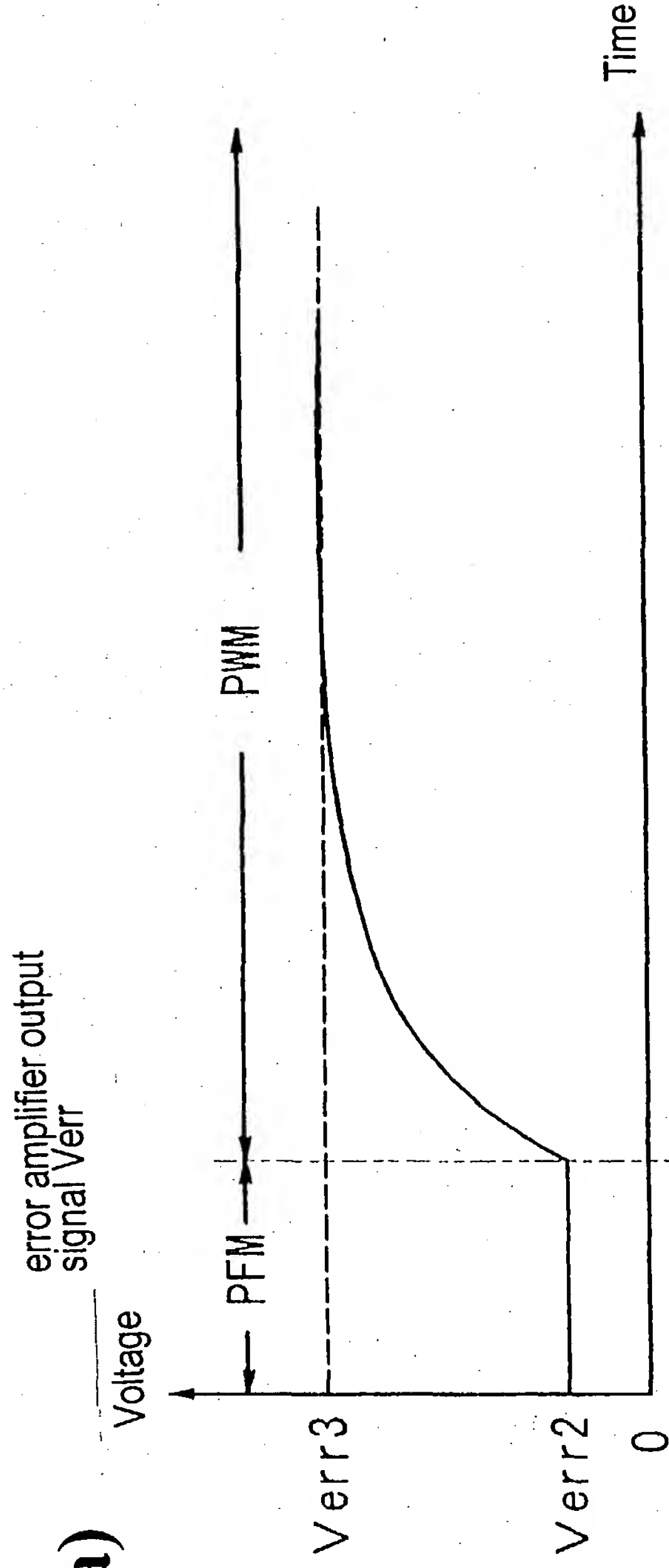


Fig. 24(b)

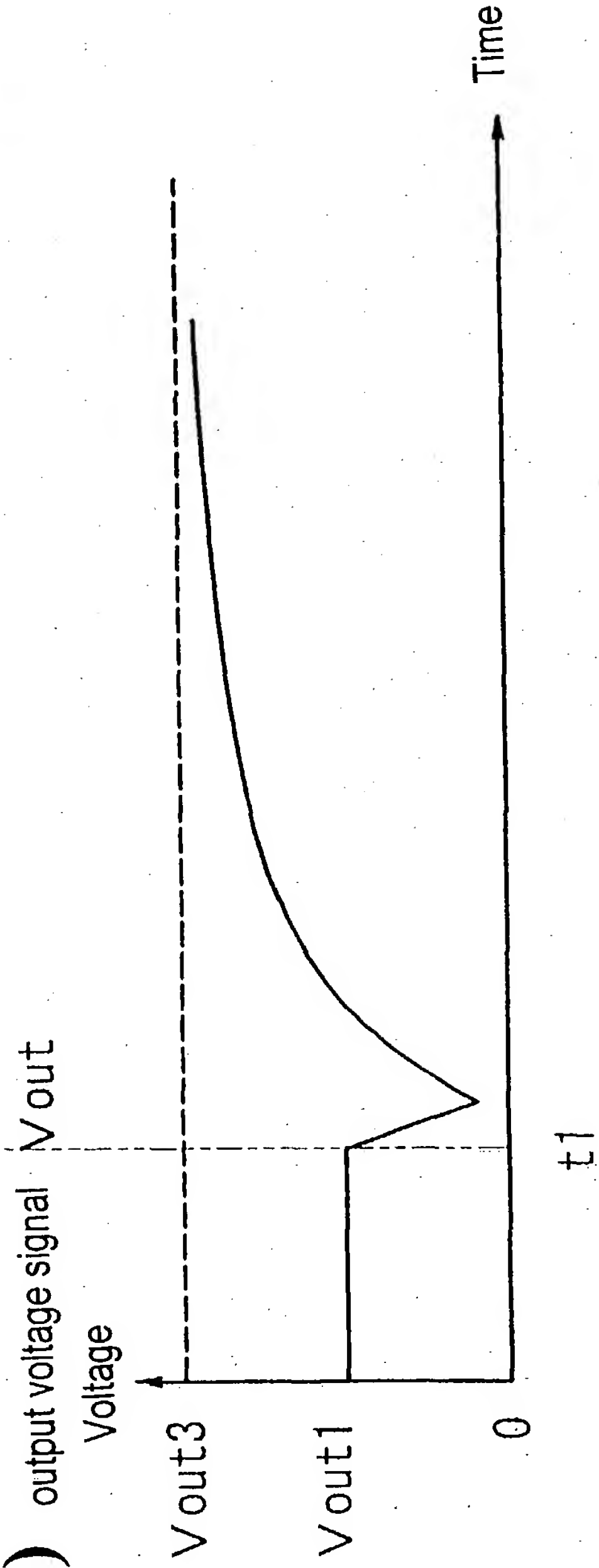


Fig. 25(a)

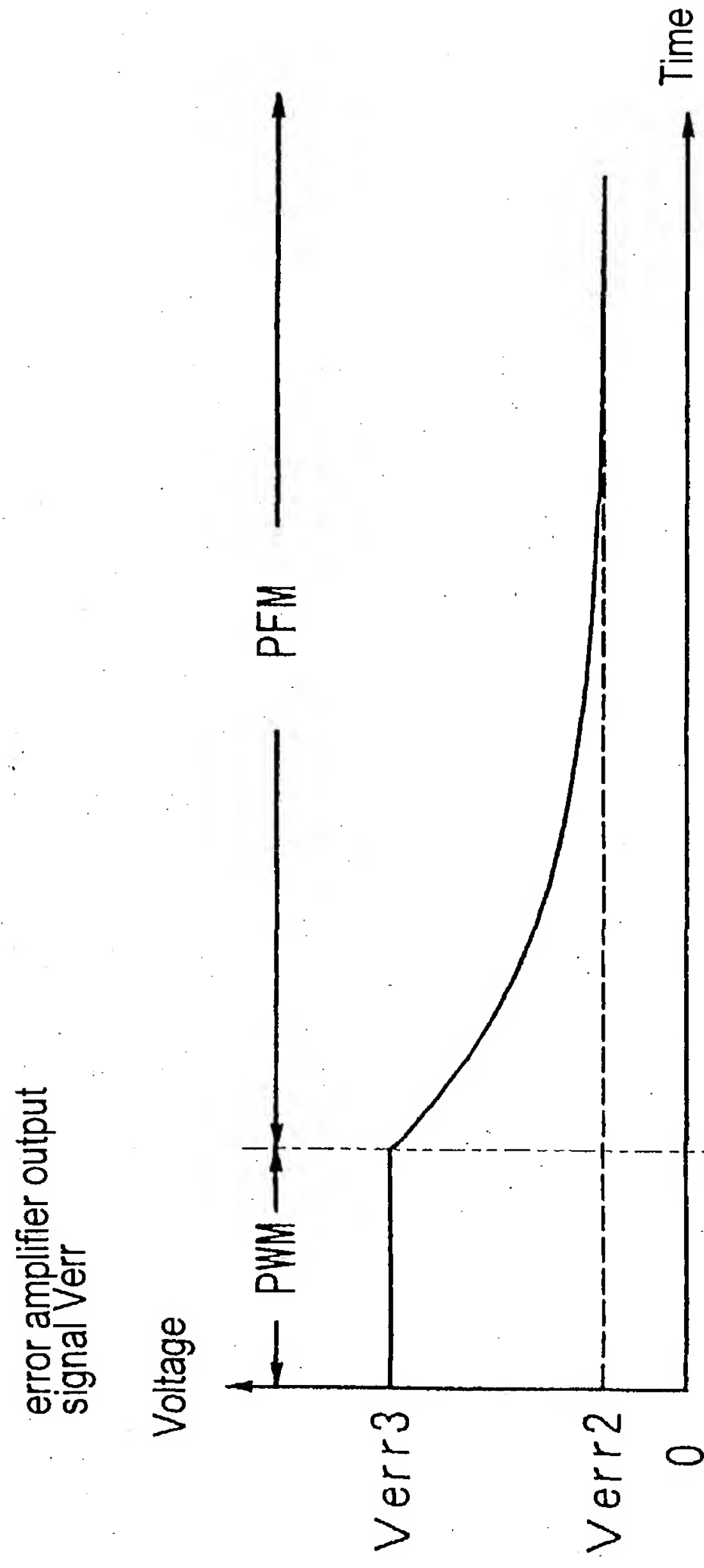


Fig. 25(b)

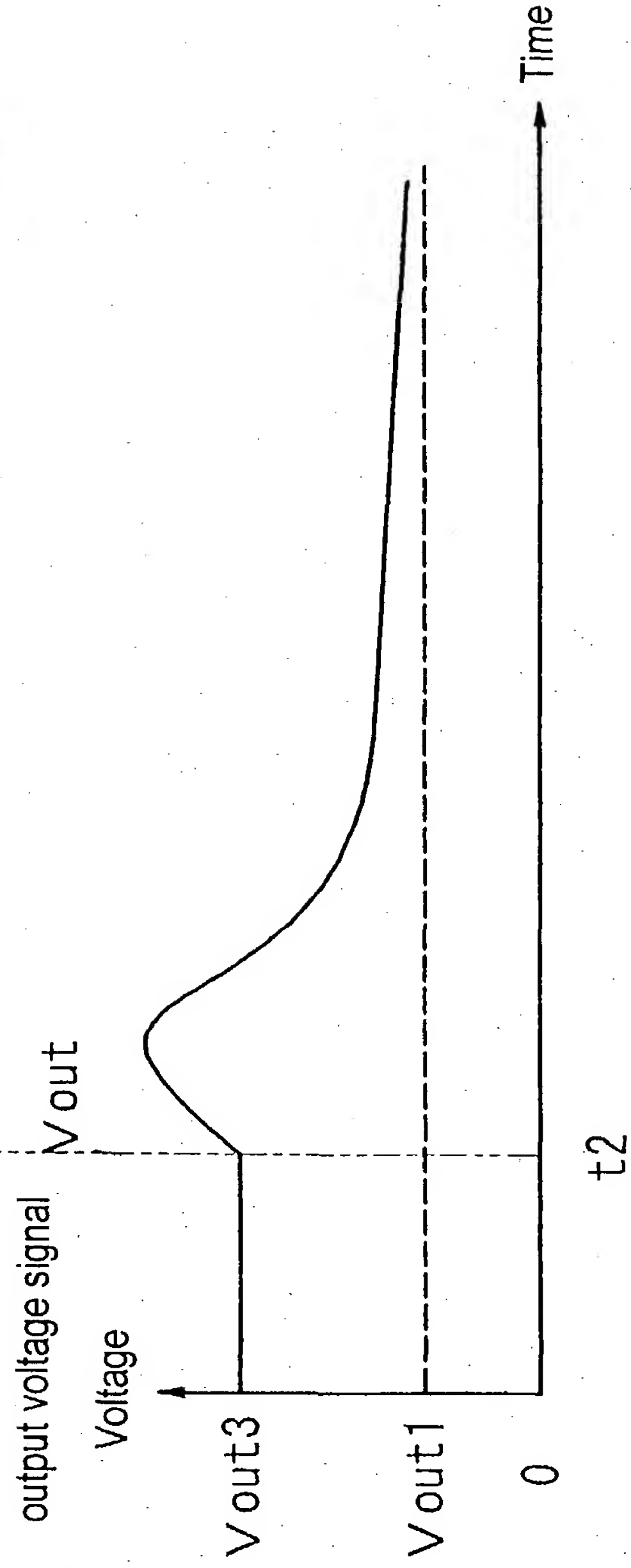


Fig. 26

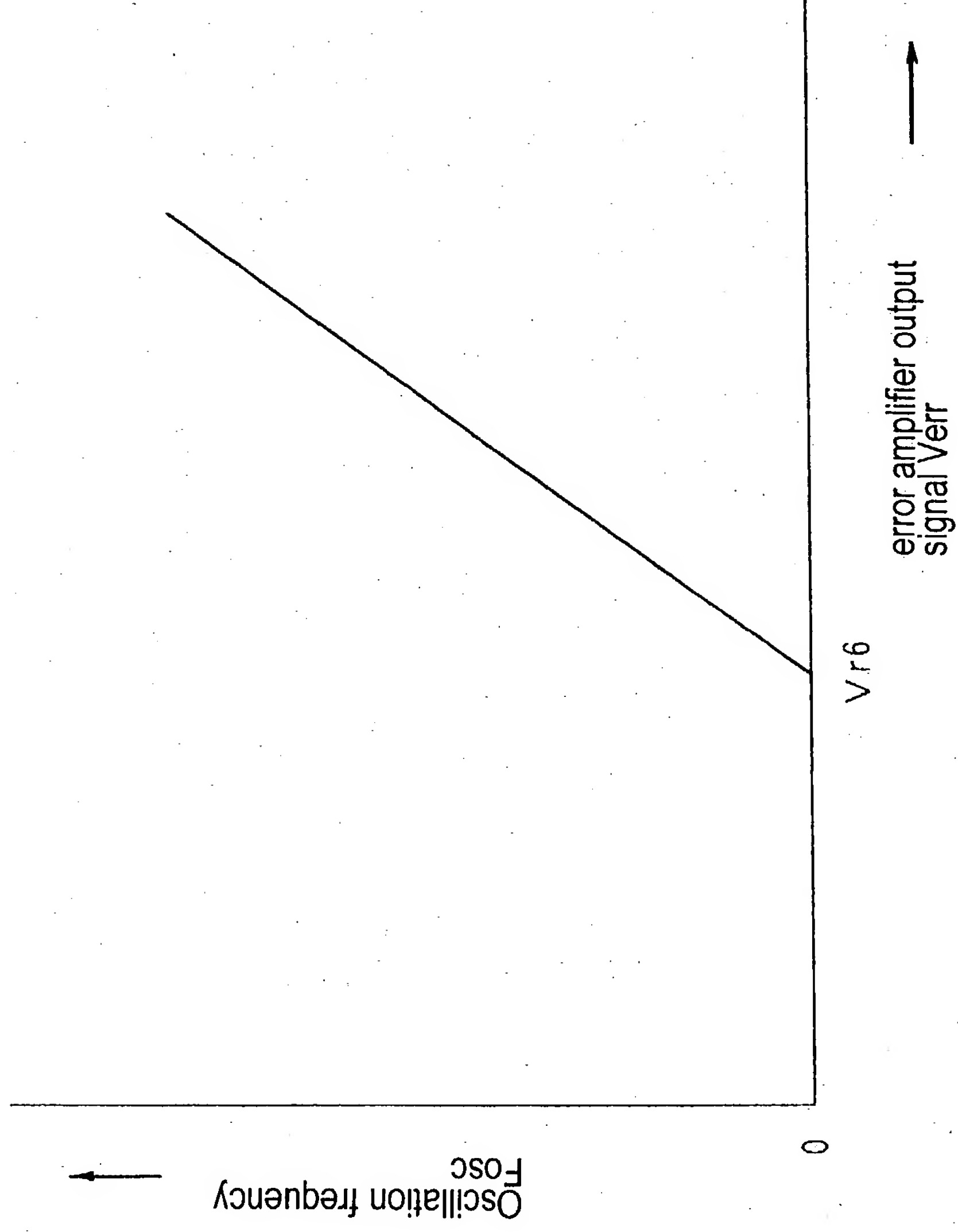


Fig. 27

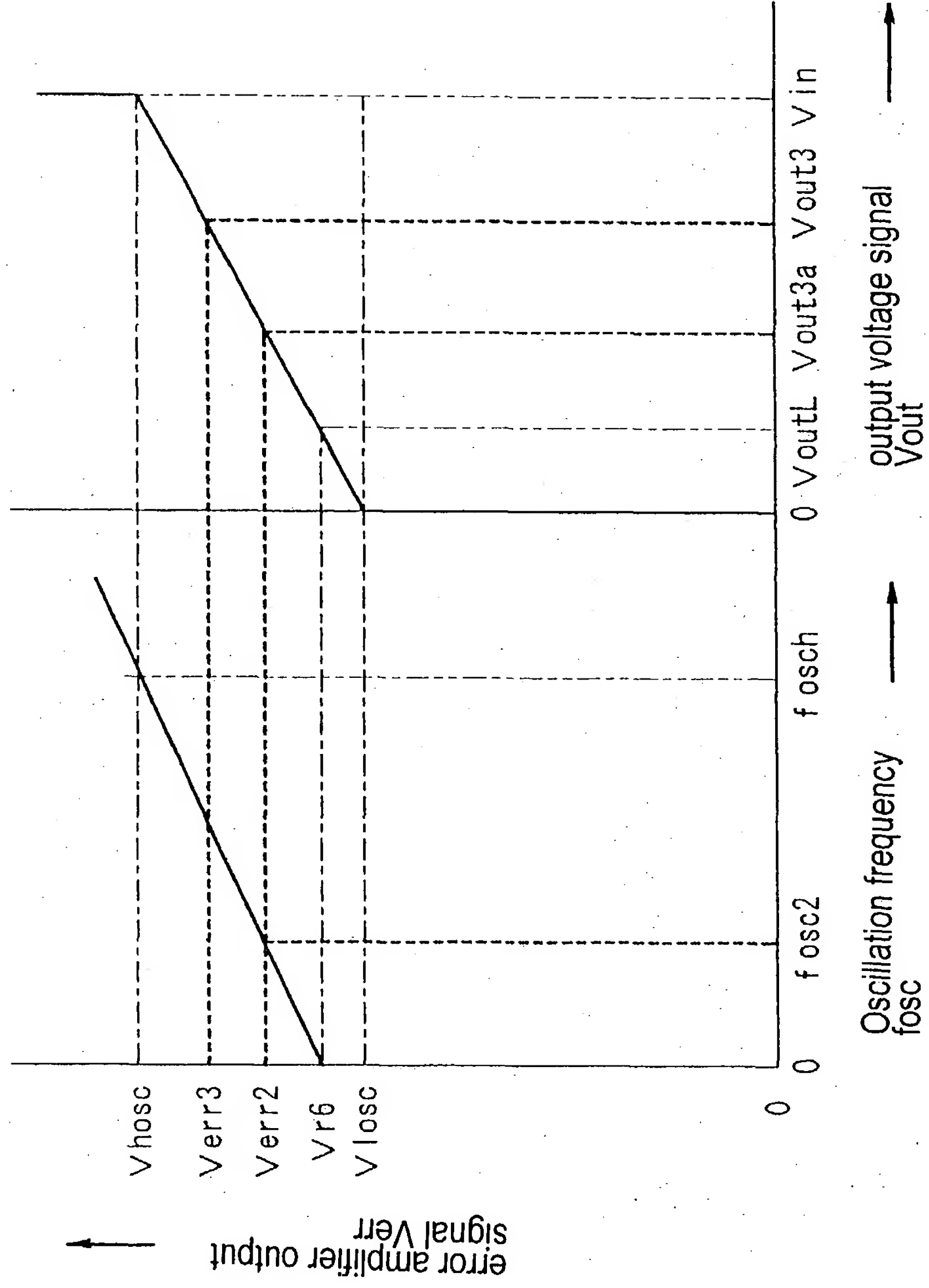


Fig. 28

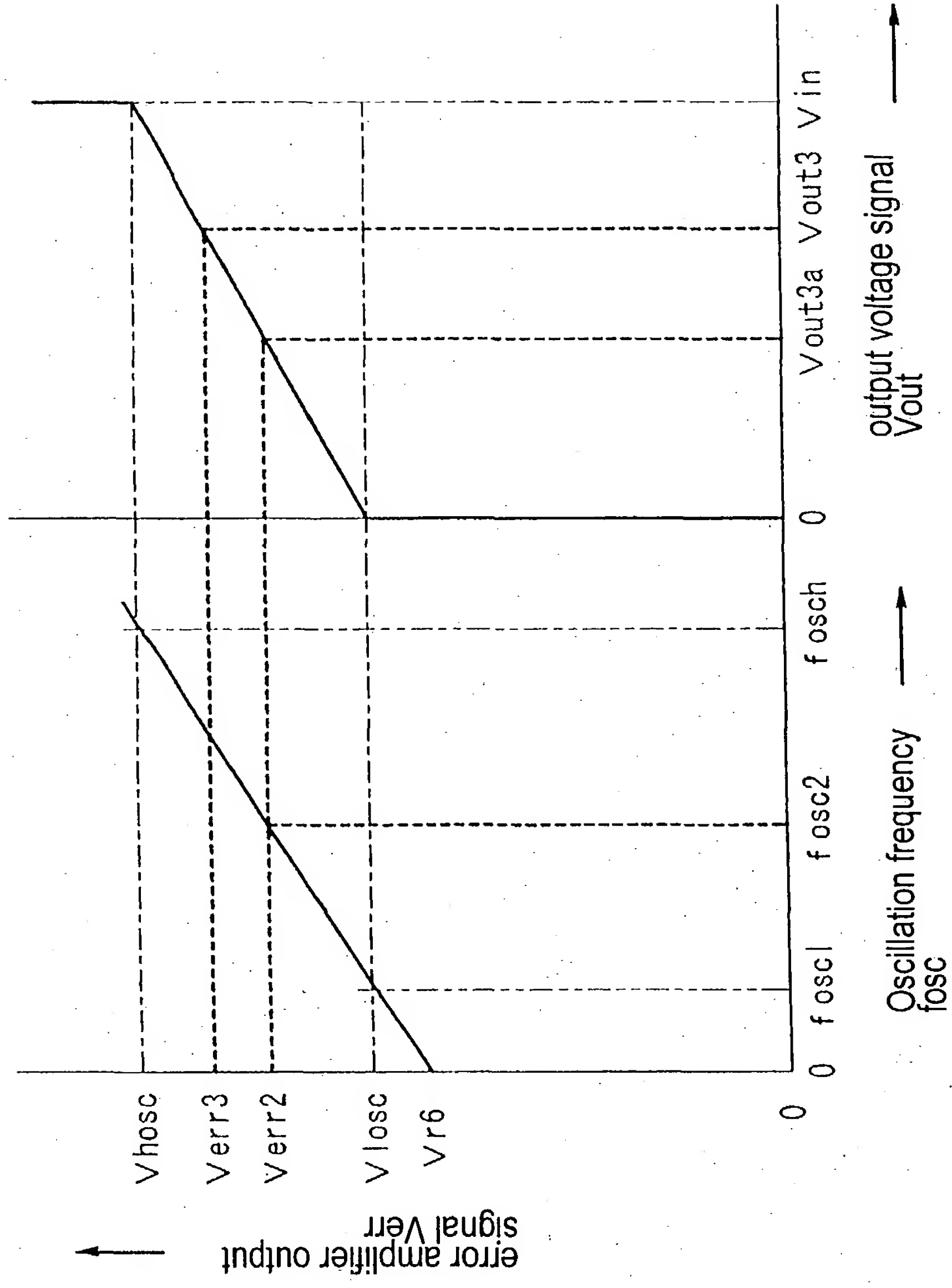


Fig. 29 Prior Art

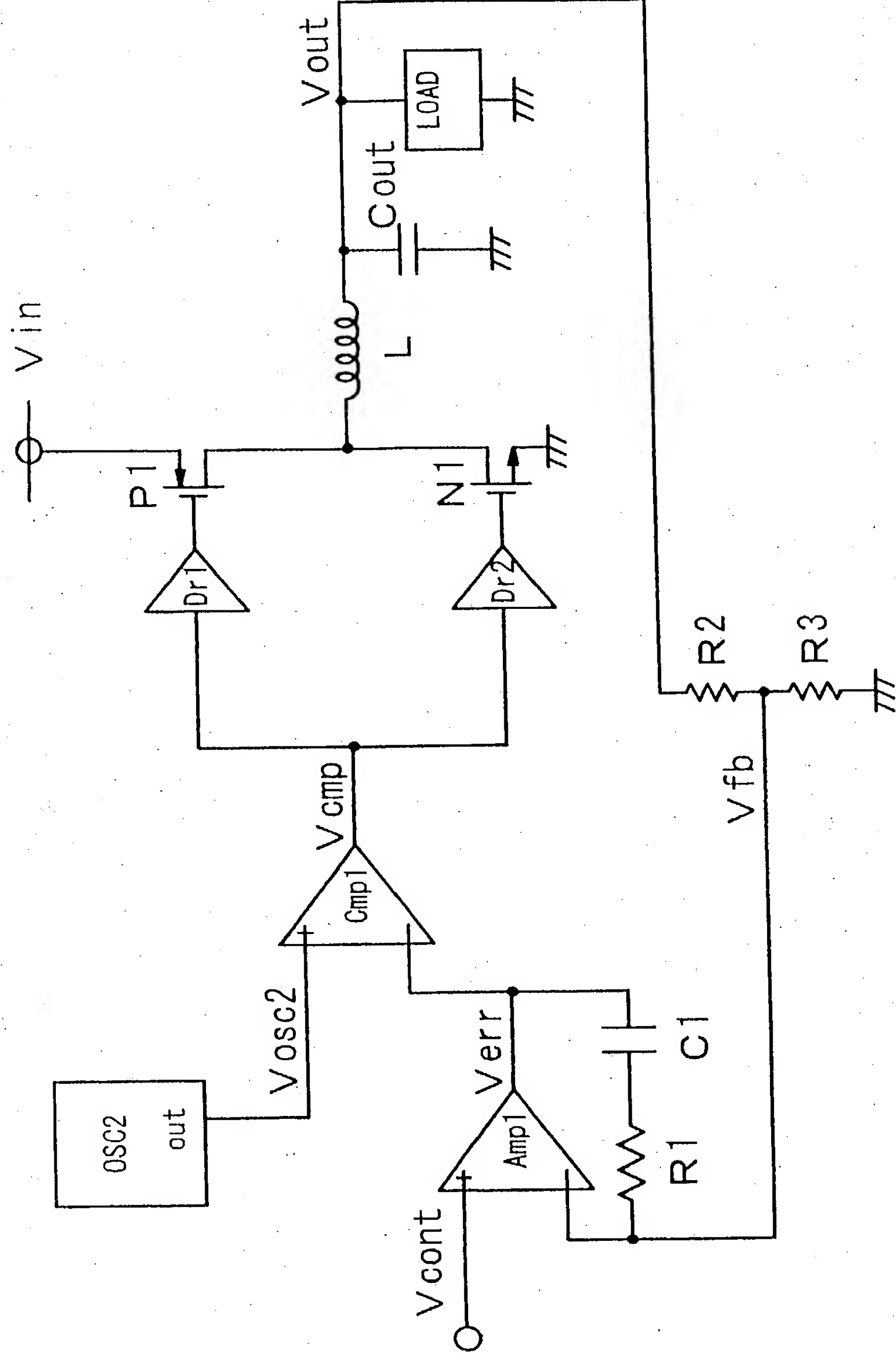


Fig. 30(a)
Prior Art

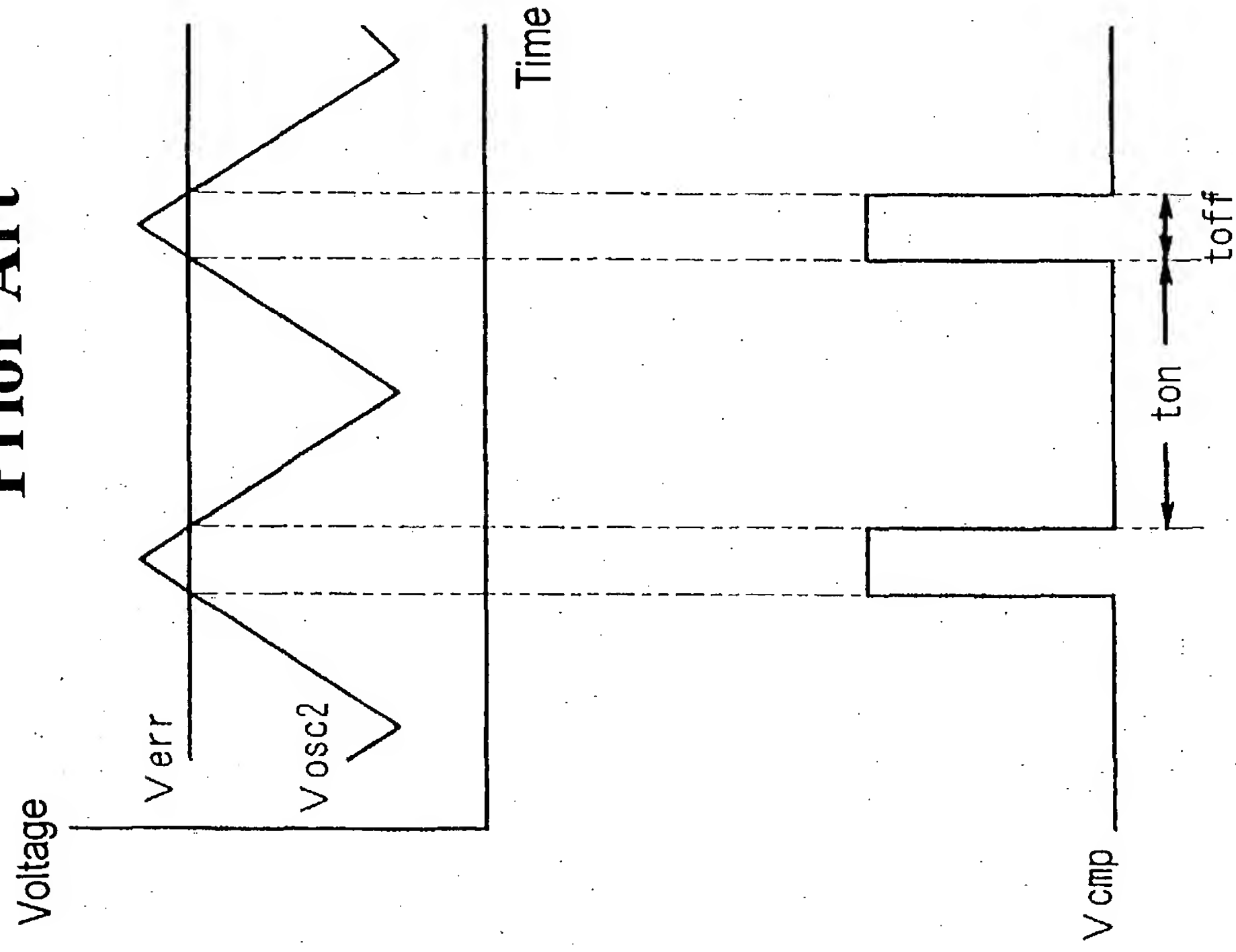


Fig. 30(b)
Prior Art

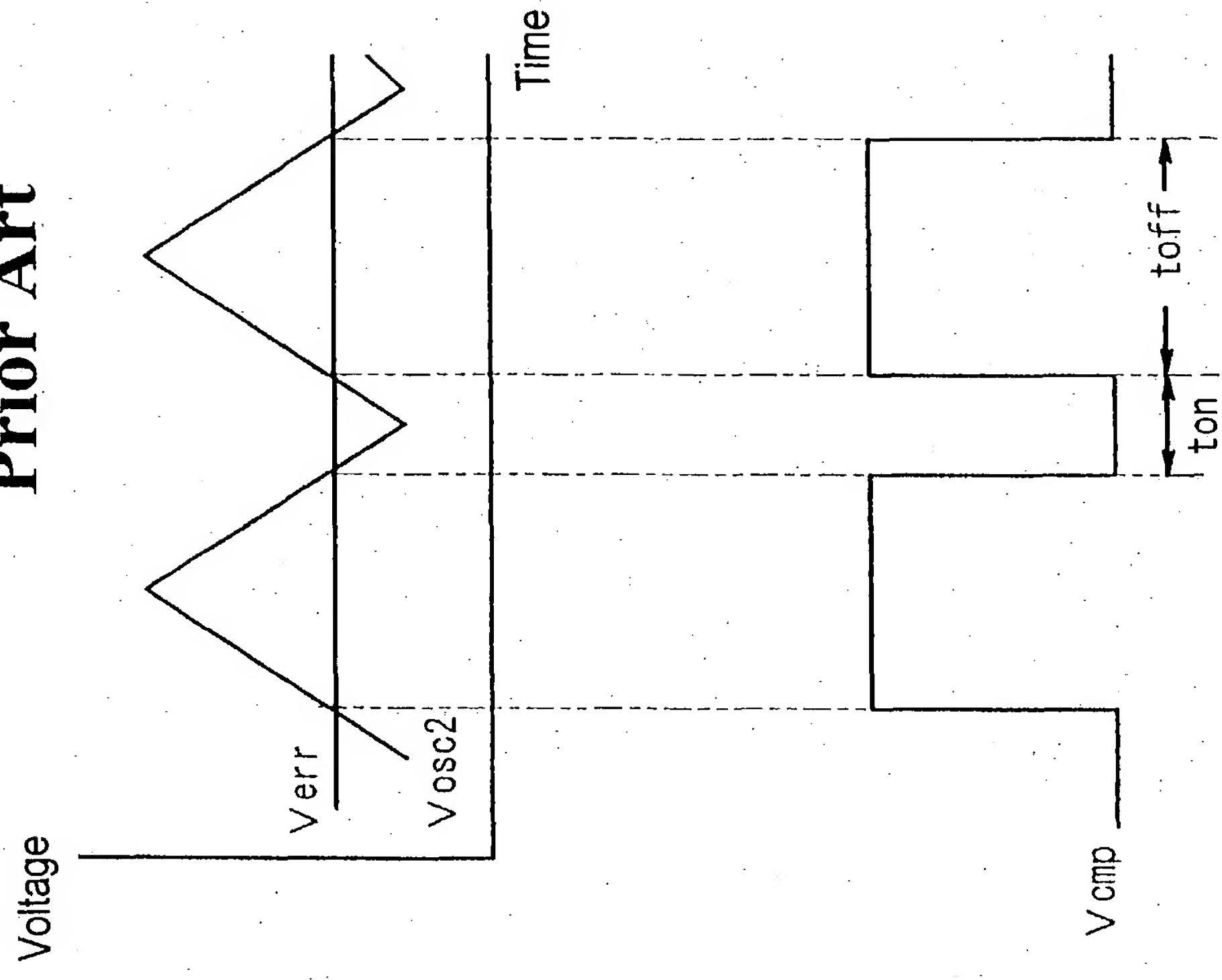


Fig. 31 Prior Art

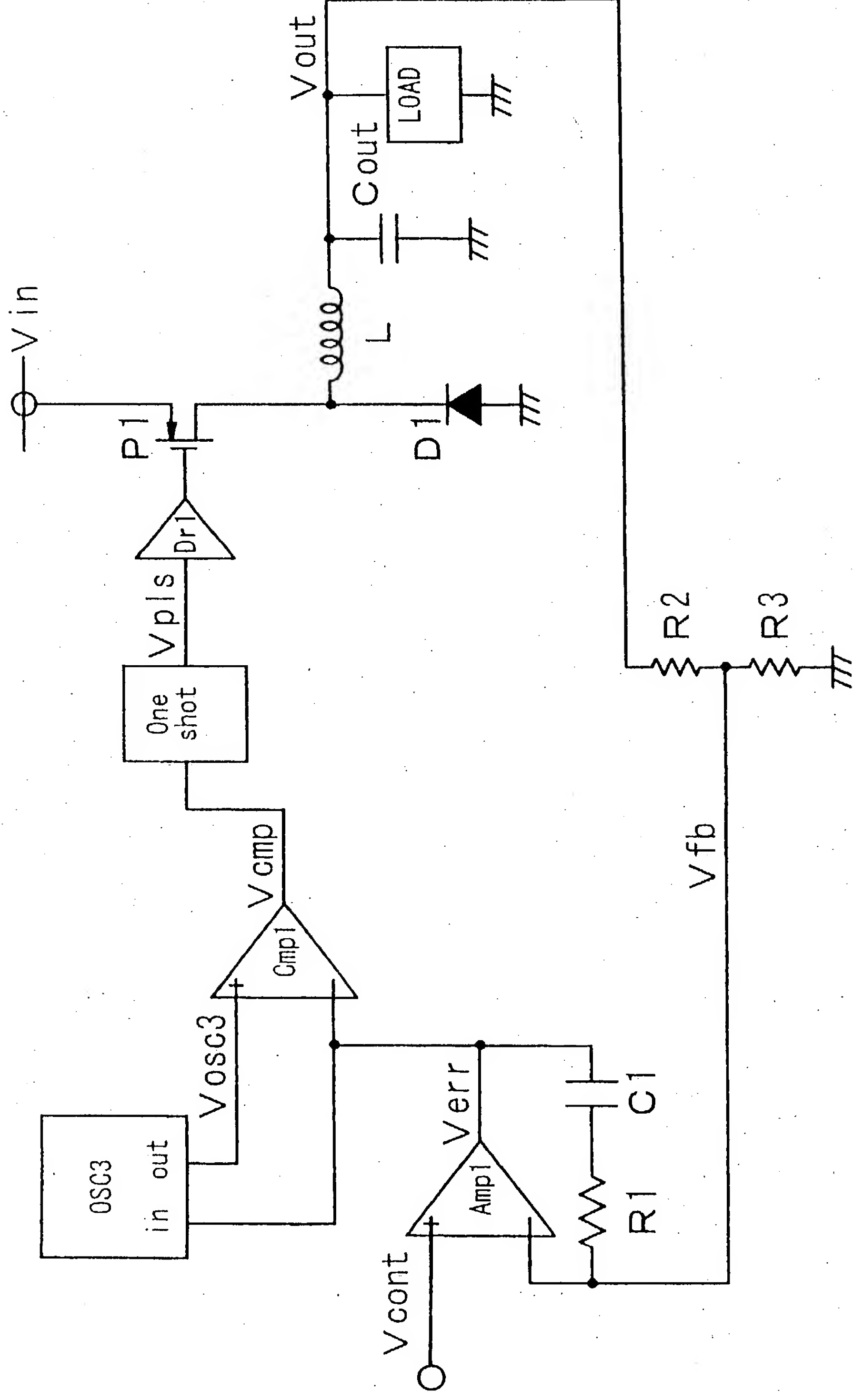


Fig. 32(a) Prior Art

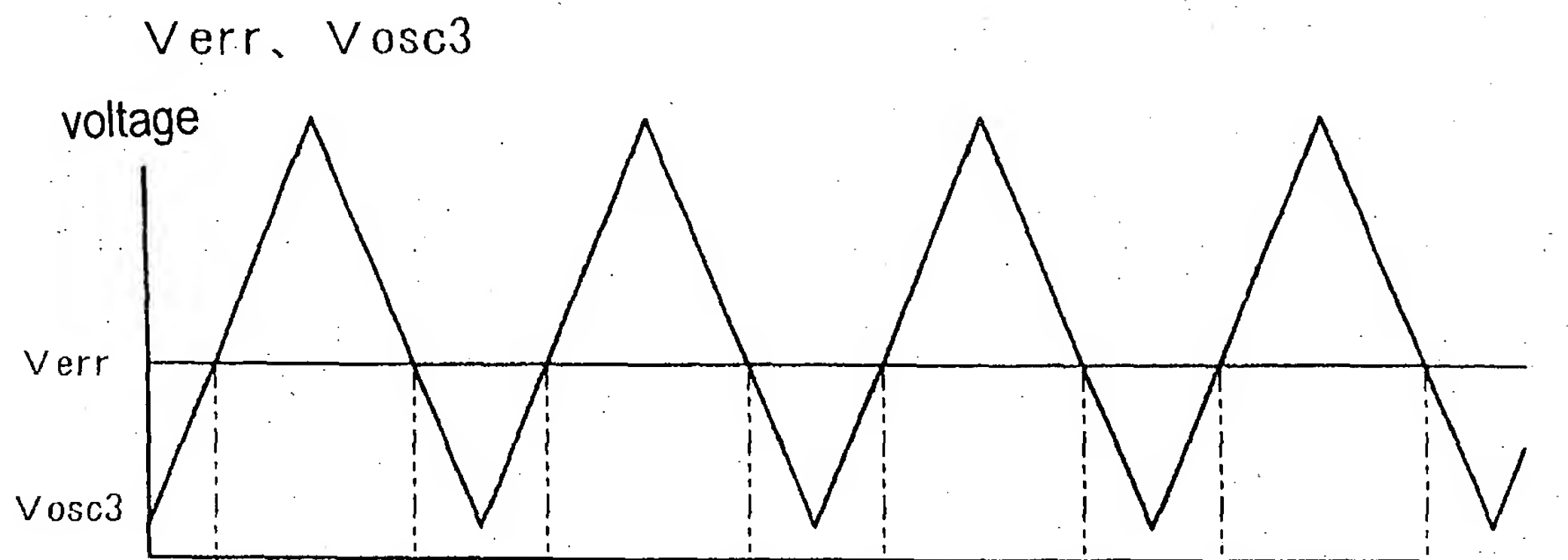


Fig. 32(b) Prior Art

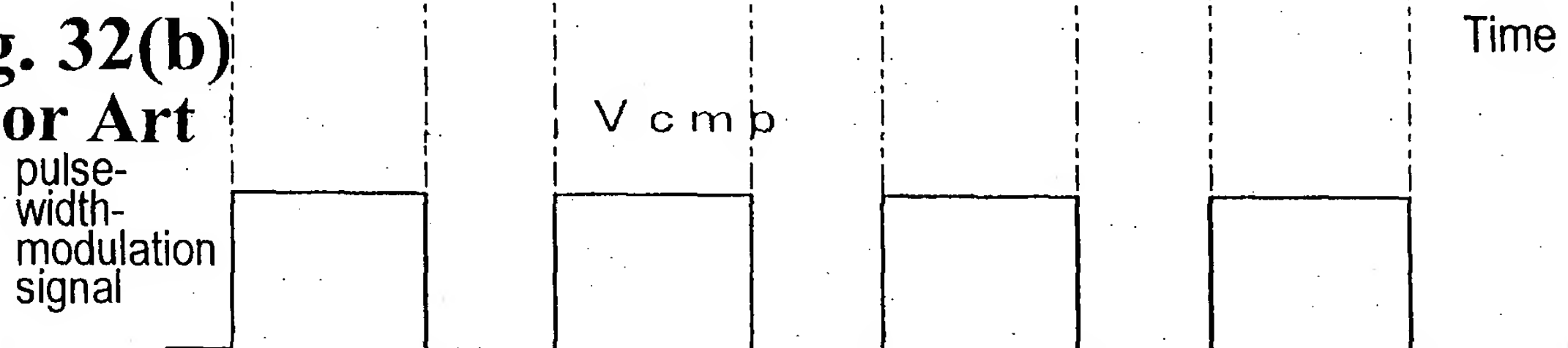


Fig. 32(c) Prior Art

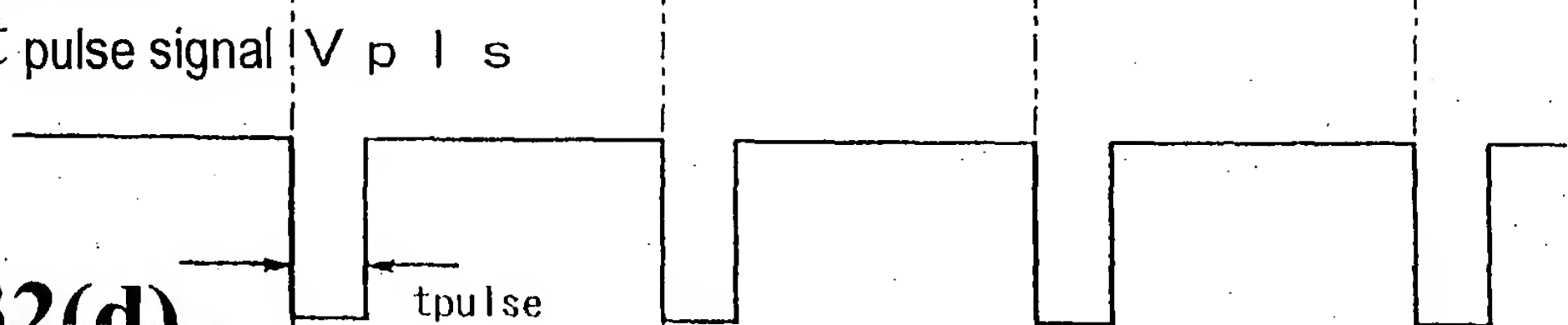


Fig. 32(d) Prior Art

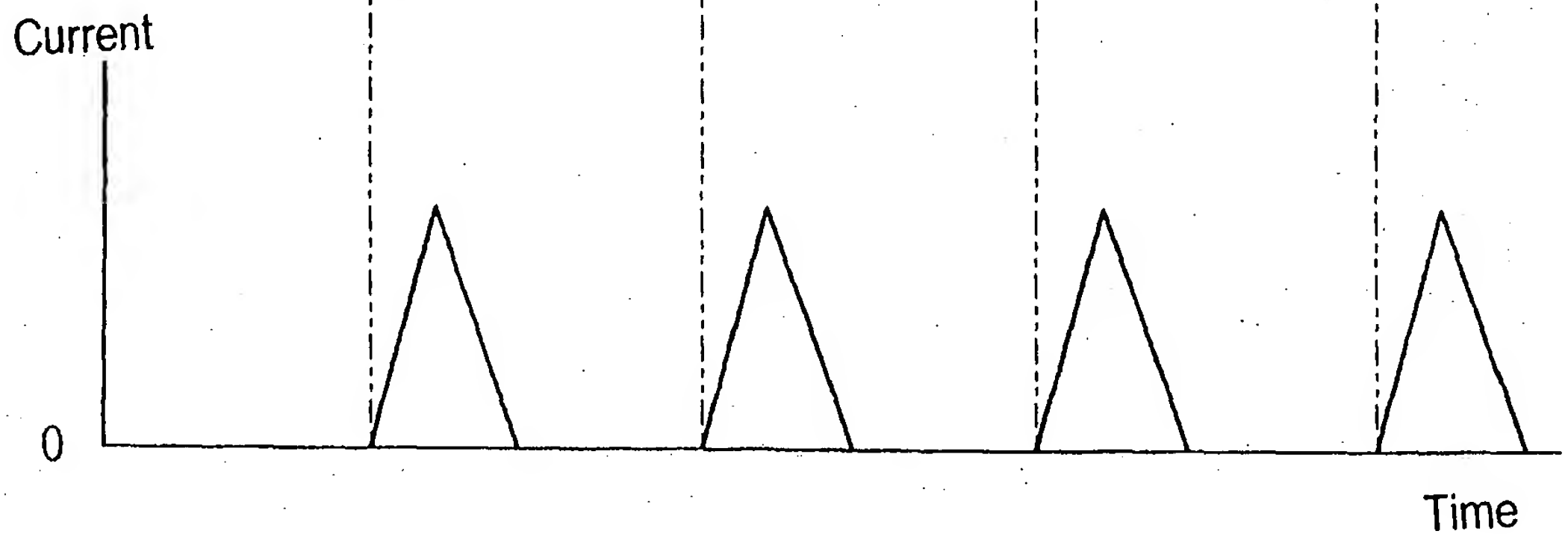


Fig. 33(a) Prior Art

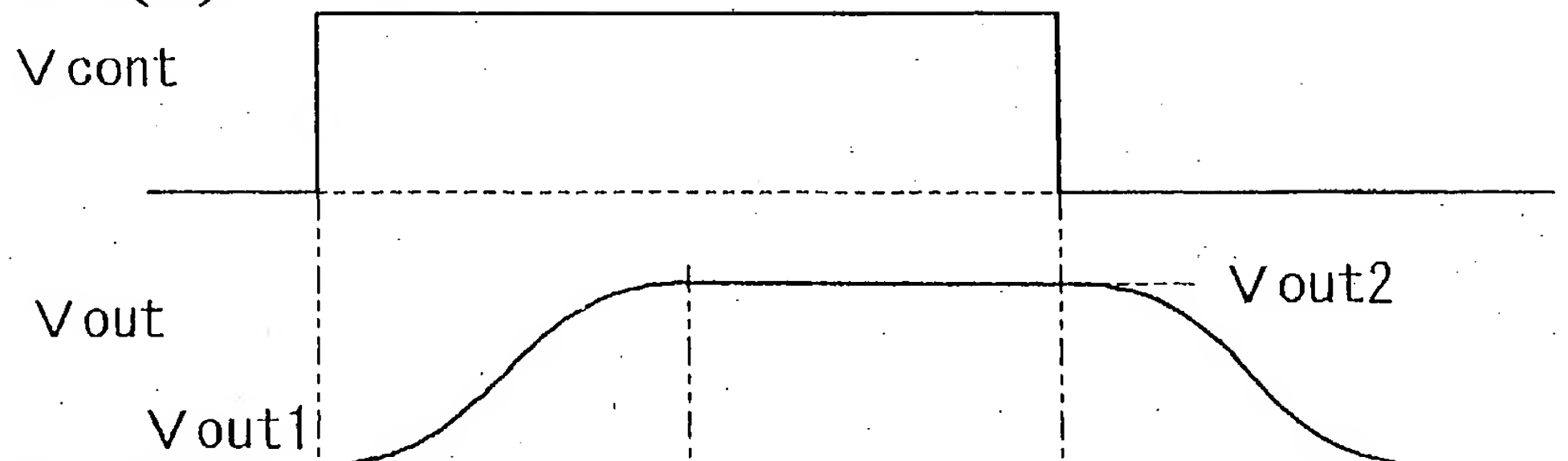


Fig. 33(b) Prior Art

load current

T_{r1} T_{f1}

Fig. 33(c) Prior Art

Current increasing or decreasing V_{out}

0

Fig. 33(d) Prior Art

coil current

